IFSO 2022

25TH WORLD CONGRESS

FONTAINEBLEAU MIAMI BEACH

MIAMI

23-27 AUGUST, 2022

www.ifso2022.com

ABSTRACT BOOK

25TH IFSO WORLD CONGRESS SILVER ANNIVERSARY

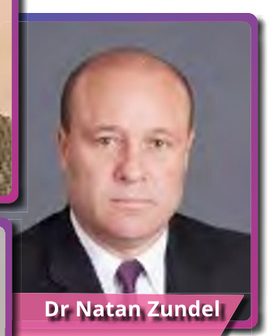
International Federation for the Surgery
of Obesity and Metabolic Disorders

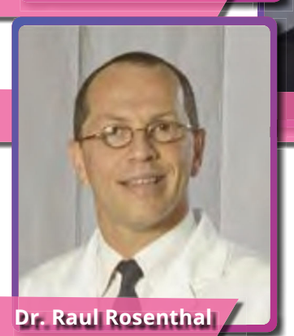
IFSO

Table of Contents

A Message from Dr. Lilian Kow, IFSO President, Dr. Natan Zundel, Congress President, and Dr. Raul Rosenthal, Congress Co-President


Lilian Kow


Dr Natan Zundel


Dr. Raul Rosenthal

Dear IFSO Members, Dear Colleagues,

THANK YOU all very much for your continuous support and participation in IFSO's activities throughout 2020 and 2021.

The last two years have been a very tough period for all of us. The pandemic has challenged our lives in each and every aspect, but the vaccine has finally brought all of us out of the tunnel.

As you know, we had to postpone twice the **XXV IFSO World Congress** in order to enable all our members to attend and to get together again. The pandemic and the travel restrictions prevented all our members from being there. **The Silver Anniversary of the IFSO World Congress** wouldn't have been the same without some of our members. So we chose to wait two years to give everyone the opportunity to be there.

The scientific program is outstanding: **9 Post Graduate Courses, 30 sessions, a Simulation Center** with the best of laparoscopic and robotic instruments will delight you for 4 days.

The ASMBS will have two full tracks, the biggest international organizations dealing with Obesity such as WOF, WGO and ISPCOP will have their sessions, IFSO LAC will organize sessions in Spanish and Portuguese. IFSO EC, IFSO NAC and IFSO MENAC will host their sessions as well. A **Video Bar** will entertain you at the end of the sessions in the afternoon while you have a drink with your colleagues.

All the abstracts accepted in 2021 and 2022 will be presented at the congress and published in Obesity Surgery Journal. Almost a thousand new studies and researches will be presented as orals, videos and e-posters.

Social events at nights will give you the chance to network and enjoy the company of friends and colleagues after two years of social distancing.

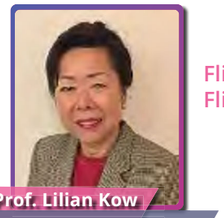
In one word: **IFSO World Congress 2022 MIAMI** remains the biggest appointment for anyone working in the field of obesity surgery.

We guarantee that the **XXV IFSO Silver Anniversary** will be worth the long wait!

Welcome to Miami!

Lilian, Natan, & Raul

IFSO Executives and Board



Prof. Lilian Kow
IFSO President

Flinders University of South Australia
Flinders Medical Centre

Dr. Raul Rosenthal
Congress Co-President

Lerner College of Medicine at CWRU
Cleveland Clinic Florida

Dr Natan Zundel
Congress President

Jackson North Medical Center;
University at Buffalo

Manuela Mazzarella
IFSO Chief Operating Officer

International Federation for the
Surgery of Obesity
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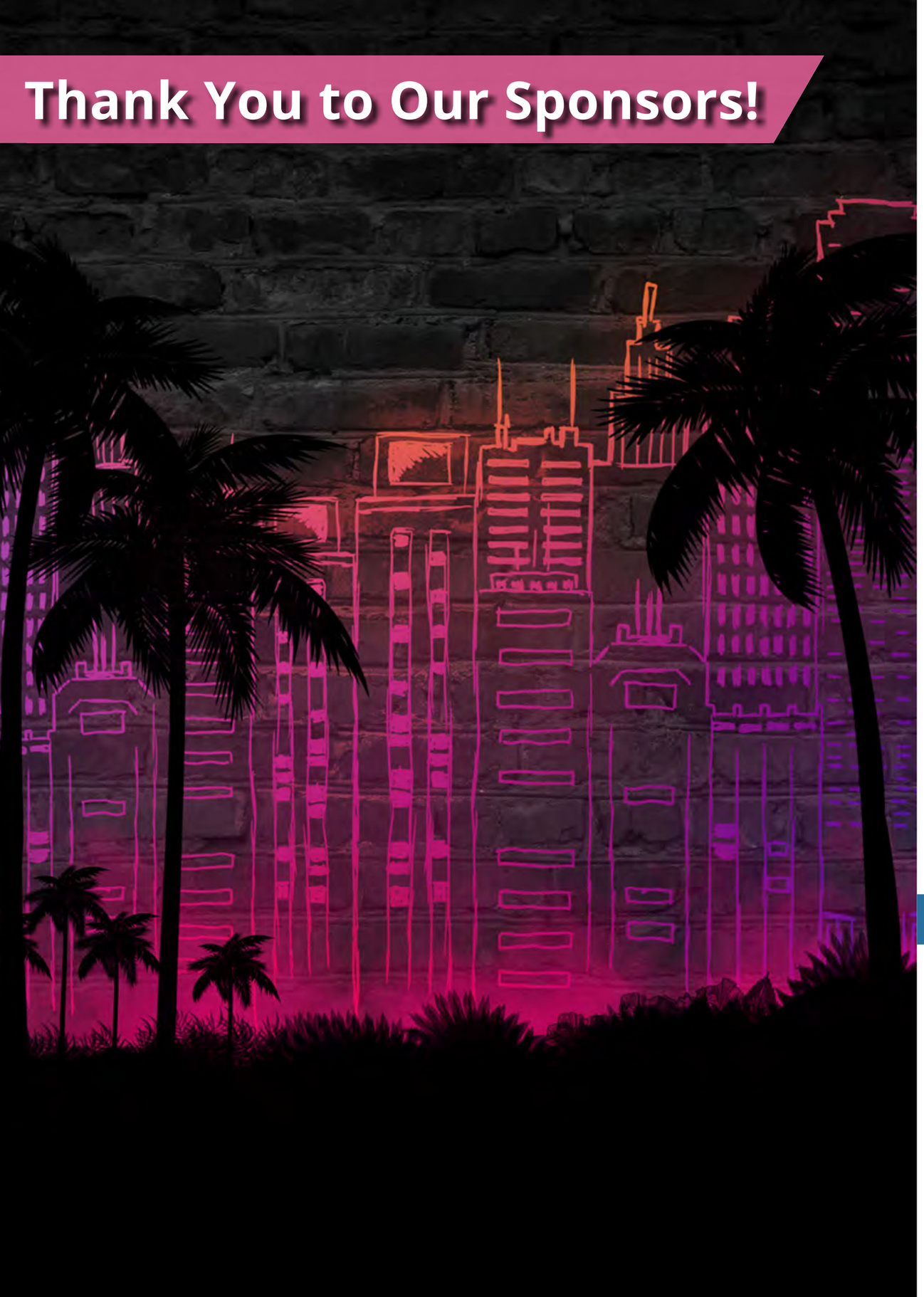

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Congress Venue

[Fontainebleau Miami Beach]
4441 Collins Ave
Miami Beach, Florida 33140

Situated on oceanfront Collins Avenue in the heart of Millionaire's Row, Fontainebleau Miami Beach is one of the most historically and architecturally significant hotels on Miami Beach, Florida. Its iconic design is a spectacular blend of Miami's glamorous golden era and stylish modern luxury. A revered Miami Beach landmark for more than half a century, Morris Lapidus' emblematic curvilinear building sets a new standard for business and pleasure.

Airport & Transportation

From [Miami International Airport (MAI)] – Transportation the Fontainebleau Miami Beach:

Taxicab: Taxicabs are located on the airport's "Arrivals (ground) Level", outside of the baggage claim areas. The cost for a ride to Fontainebleau Miami Beach is a flat rate Zone 4 - $35.00 USD. Cash or credit card is accepted. Travel time is about 45 minutes without traffic. We recommend allowing at least 90 minutes for travel, especially during morning and evening rush hour. Taxicabs operate 24/7.

Ride-Sharing App (Uber/Lift): Ride-sharing companies can be located by the curbside signage with a cell phone image. Ride-sharing app pickup zones are located on the "Arrivals Level (1)" at the middle median outside of doors 1, 2, 3, 4, 5, 7, 11, 15, 20, and 23.

[Click here for video instructions to find the Ride-Sharing App pick-up location.]

Transportation from the [Fort Lauderdale-Hollywood International Airport (FLL)] to the Fontainebleau Miami Beach:

Ground Transportation Booths are located in each terminal on the Lower Level. Customer Service Coordinators typically staff these Information Booths during peak periods with significant flight arrivals. They will assist FLL Airport patrons with ground transportation questions.

Taxicab and Ride-Sharing App (Uber/Lift): To access all ground transportation, follow the easy-to-read signs in the terminal from your gate to the baggage claim area located on the lower level. After you pick up your bags, go outside the terminal. You can make arrangements for a taxicab or shared ride at a Transportation Podium located at the curb outside of the baggage claim area. The estimated cost for a ride to Fontainebleau Miami Beach is estimated at $70.00 USD. Cash or credit card is accepted. Travel time is about 35 minutes without traffic. We recommend allowing at least 60 minutes for travel, especially during morning and evening rush hour. Taxicabs operate 24/7.

Know Before Your Visit

Know Before Your Visit
International Travelers to the US can learn more about traveling with medications, service animals, etc. on the U.S. Customs Know Before You Visit website.

Currency Exchange, ATMs & Credit Cards
Currency Exchange locations are conveniently located at the airports. You can find ATMs almost anywhere in the US, and credit cards are widely accepted in the US (Master Card, VISA, and American Express. Diners Club is not accepted in most places).

At the Miami International Airport (MAI) - Currency Exchange Booths are located in Terminals D, E, F, G, H, J.

- (4) locations on the 2nd level throughout the terminal
- (2) locations in each Greeter's Lobby areas: Concourse E 1st level and Concourse J 3rd level
- (3) locations passing security checkpoints: one inside Concourse J, one location inside Concourse D
- (1) location in the E Satellite building, open daily from 5:30 AM - 11:00 PM

At the Miami International Airport (MAI) - ATMs are located in Terminals D, E, F, G, H, J.
ATM locations level 1
ATM locations level 2
ATM locations level 3
ATM locations level 4

At the Fort Lauderdale-Hollywood International Airport (FLL) - Currency Exchange are located in:

Terminal 1: pre-security international arrivals area, open daily from 8:00 AM – 8:00 PM

Terminal 4: in the Baggage Claim area on the lower level, open daily from 8:30 AM – 9:00 PM

At the Fort Lauderdale-Hollywood International Airport (FLL) – ATMs are located in all four terminals (pre and post-security).

- An ATM is also located in the Rental Car Center on the third level. They are available 24/7.
- Multi-currency ATMs are located post-security, Concourse B in Terminal 1, Concourse D in Terminal 2, and Concourse F in Terminal 3.

Climate & Attire
Chances are, no matter what time of the year you'll get some use out of your beach sandals – even mid-winter. Expect light showers almost daily throughout the summer, but don't worry, they're known to only last about ten minutes. Pack your favorite outfits for the tropics according to the expected weather conditions. View Miami Weather for the week.

Electrical Supply
The United States uses 120V and 60Hz AC electricity. Plugs have two round pins and an additional ground pin. A standard travel adaptor plug will enable you to use appliances from abroad.

Tipping Etiquette
In the US, tipping is based on how pleased you are with the service you received. A standard tip is around 15%-20% of the final total of the check. Some restaurants for large groups (for example - 8 or more people) will automatically include the tip on the check when you receive it.

Getting Around Miami
Taxicab: Most taxi drivers run a meter, which displays the fare you are expected to pay. The rate in Miami starts at $2.95 USD for the first 1/6 mile and $.85 USD for each additional 1/6 mile until 1 mile then $.40 for each 1/6 mile after that. Waiting time is $.40 USD per minute (or $24.00 USD per hour). You'll also be responsible for any tolls during your trip. Additionally, tipping is optional but customary (and expected for good service which is usually 15%-20%).

Most Miami cabs have a credit card reader but double-check with the driver before leaving.

In Miami, unlicensed taxis are illegal so make sure your taxi service is licensed. Look for the "taxi" or "cab" displayed on the vehicle, as well as a telephone number. The taxi's license number, driver's license number, and the driver's rate card must also be displayed.

Click here for more information about taxicabs.

Miami Beach Trolley: The citywide FREE trolley service currently operates 15 hours a day, from 8:00 AM to 11:00 PM, 7 days a week at approximately 30-minute average service frequency along each route. Click here for more information and trolley routes.

Rideshare (Uber/Lift): Both companies also offer a variety of options for the vehicle that will be picking you up. Of course, the better-quality vehicles come at a premium.

Emergencies and Pharmacies

In case of emergency (ambulance, fire and rescue, police), call 911, a toll-free number that works 24/7 across the US. The 911 call center immediately identifies the caller's location. It has interpreting services covering as many as 170 languages.

Closest Hospital - Mount Sinai Medical Center
4300 Alton Rd., Miami Beach, FL 33140
Phone: +1-305-224-8553

FastCare Urgent Care
Offers COVID Testing - no appointment
825 Arthur Godfrey Rd Suite #100, Miami Beach, FL 33140
Phone: +1-786-923-4000
Hours:
Mon-Fri: 9:00 AM - 9:00 PM
Sat-Sun: 9:00 AM - 5:00 PM

Walgreens - Store #3942
4049 Pine Tree Drive
Miami Beach, FL 33140
Phone: +1-305-535-9737
Store Hours: OPEN 24hours
Pharmacy Hours:
Mon -Fri: 9:00 AM - 9:00 PM / Lunch break 1:30 PM - 2:00 PM
Sat: 9:00 AM – 6:00 PM / Lunch break 1:30 PM- 2:00 PM
Sun: 10:00 AM – 6:00 PM / Lunch break 1:30 PM- 2:00 PM

Postal & Courier Services

FedEx Office Print & Ship Center - Located in the Fontainebleau Hotel Miami
4441 Collins Ave, Miami Beach, FL 33140
Phone: +1-305-672-1177

Visitor Info About Miami, FL

Social Tours, Attractions, and Culture
Learn about Miami tours and excursions here.
Learn about Miami neighborhoods to explore here.

Travel Responsibly

Click here to learn more about traveling to Miami, FL, the travel guidelines, local COVID-19 information, and the destination pledge.

Networking Opportunities

Welcome Reception

Date: August 24, 2022
Event Time: 6:30 PM to 8:30 PM
Location: Sparkle Ballroom (Exhibit Floor)

Tropical Night Closing Party

Date: Friday, August 26, 2022
Event Time: 8:00 PM
Location: Glimmer Ballroom
Tickets: Your ticket is included in your registration. If you would like to bring a guest, you must have a ticket for the guest to attend this event. If you have not yet purchased your guest ticket, you can purchase the ticket for $199 at the Congress Registration Desk at Fontainebleau Miami Beach or by modifying your registration confirmation. Please email ifso2022@meetingadvice.com if you have any questions.

Registration Fees

Click here for more information on the registration deadlines, fees, and cancellation policy.

Program-At-A-Glance

Monday, August 22, 2022

1ST WORLD BARICLIP CONSENSUS
Time: 12:30 PM - 5:30 PM
Chair: Jose Rodriguez
Co-Chairs: Patrick Noel, Moises Jacobs

Tuesday, August 23, 2022

POST GRADUATE COURSE: BARIATRIC ENDOSCOPY IN 2022, WHERE WE STAND – DAY 1
Time: 8:30 AM - 12:00 PM
Chair: Barham Abu Dayyeh
Co-Chairs: Erik Wilson, Reem Sharaiha, Eduardo Grecco, Christine Stier, Manoel Galvao

POST GRADUATE COURSE: HERNIAS AND THE PATIENT WITH SEVERE OBESITY
Time: 8:30 AM - 4:30 PM
Chair: Diego Camacho
Co-chairs: Brian Jacob, Enrique Arias

POST GRADUATE COURSE: METABOLIC SURGERY PRIME TIME: FACTS AND MYTHS
Time: 8:30 AM - 4:30 PM
Chair: Miguel Herrera
Co-chairs: Laurent Biertho, Carlos Schiavon, Mal Fobi, Matías Sepúlveda

POST GRADUATE COURSE: BARIATRIC ENDOSCOPY, HANDS-ON
Time: 1:00 PM - 4:30 PM
Chair: Luiz Gustavo de Quadros

LATIN-AMERICAN DAY: INTEGRATED HEALTH FROM LATINOAMERICA TO THE WORLD
Time: 1:00 PM - 4:30 PM
Chair: Laura Fantelli
Co-chairs: Monica Coqueugniot, Claudia Maria Carvajal, Silvia Pereira, María José Escaffi, Tarissa Petry, Lilia Cafaro

Wednesday, August 24, 2022

LATIN-AMERICAN DAY: IFSO LATIN AMERICAN CHAPTER (IFSO LAC) SESSION – DAY 1
Time: 8:00 AM - 12:30 PM
Chair: Estuardo Behrens
Co-chairs: Luis Poggi, Sergio Aparicio, Nelson Rodríguez, Pedro Martinez

POST GRADUATE COURSE: HOW TO PREVENT AND TREAT BARIATRIC SURGERY COMPLICATIONS
Time: 8:30 AM - 5:00 PM
Chair: Luigi Angrisani
Co-chairs: Antonio Torres, Rudolf Weiner, Catalin Copaescu

POST GRADUATE COURSE: ONE ANASTOMOSIS GASTRIC BYPASS DISSECTED
Time: 8:30 AM - 4:30 PM
Chair: Jacques Himpens
Co-chairs: Mario Musella, Jean-Marc Chevallier, Rui Ribeiro, Kamal Mahawar

POST GRADUATE COURSE: BARIATRIC ENDOSCOPY IN 2022, WHERE WE STAND – DAY 2
Time: 8:30 AM - 12:00 PM
Chair: Manoel Galvao Neto
Co-chairs: Rachel Moore, Mousa Khoursheed, Nicole Peña, Luis Zurita Macías Valadez, Barham Abu Dayyeh

POST GRADUATE COURSE: INTEGRATED HEALTH: BUILDING POST-OPERATIVE MOMENTUM
Time: 8:30 AM - 4:30 PM
Chair: Mary O'Kane
Co-chairs: Tracy Martinez, Silvia Leite Faria, Mary Ann Mosti, Nate Sann, Maureen Mosti

POST GRADUATE COURSE: RESEARCH AND PUBLICATION IN METABOLIC/BARIATRIC SURGERY
Time: 8:30 AM - 4:30 PM
Chairs: Scott Shikora, Jane Buchwald

POST GRADUATE COURSE: REVISIONAL BARIATRIC SURGERY
Time: 8:30 AM - 4:30 PM
Chairs: Eric DeMaría, Kelvin Higa
Co-chairs: Alan Wittgrove, Juan Antonio López Corvala, Rana Pullatt, Jaime Ponce

POST GRADUATE COURSE: BARIATRIC ENDOSCOPY, HANDS-ON
Time: 1:00 PM - 4:30 PM
Chair: Eduardo Grecco

OPENING CEREMONY
Time: 5:15 PM - 6:30 PM
Location: Glimmer Ballroom

WELCOME RECEPTION
Time: 6:30 PM - 8:30 PM
Location: Sparkle Ballroom (Exhibit Floor)

Thursday, August 25, 2022

ASMBS TRACK: SESSION 1
Time: 8:00 AM - 3:30 PM
Chair: Mona Misra
Co-chairs: Shanu Kothari, Rachel Moore, Ann Rogers

INTEGRATED HEALTH: CHRONO BEHAVIOURS FOR WEIGHT MAINTENANCE AND EFFECTIVE WEIGHT REGULATION
Time: 8:00 AM - 10:00 AM
Chair: Mary O'Kane
Co-chairs: Silvia Leite Faria, Lillian Craggs-Dino, Julie Parrott

TOP TEN PAPERS 2021
Time: 8:00 AM - 10:00 AM
Chairs: Lilian Kow, Miguel Herrera, Scott Shikora

LATIN-AMERICAN DAY: IFSO LATIN AMERICAN CHAPTER (IFSO LAC) SESSION – DAY 2
Time: 8:00 AM - 3:30 PM
Chair: Estuardo Behrens
Co-chairs: Luis Poggi, Sergio Aparicio, Nelson Rodríguez, Pedro Martinez

METABOLIC SURGERY TOP TOPICS
Time: 8:00 AM - 10:00 AM
Chair: Joe Northup
Co-chairs: Rudolf Weiner, Pierre Garneau, Mohammad Kermansaravi

COFFEE BREAK
Time: 10:00 AM - 10:30 AM

BARIATRIC MEDICAL TOURISM (BMT): CAN WE GET THIS RIGHT FOR THE PATIENTS?
Time: 10:30 AM - 12:30 PM
Chairs: Chetan Parmar
Co-chair: Francisco Zavalza

SLEEVE PLUS
Time: 10:30 AM - 12:30 PM
Chair: Michel Gagner
Co-chairs: Patrick Noel, José Rodríguez Villarreal

LUNCH
Time: 12:30 PM - 1:30 PM

METABOLIC SURGERY
Time: 1:30 PM - 3:30 PM
Chair: Ricardo Cohen
Co-chairs: Miguel Herrera, Michel Suter, Sayeed Ikramuddin

THE DUEL FOR THE HEAVIEST: BEST PERFORMANCES FOR PATIENTS WITH SEVERE OBESITY
Time: 1:30 PM - 3:30 PM
Chair: Almino Ramos
Co-chairs: Ricardo Zorron, Andres Sanchez-Pernaute

TOP TEN PAPERS 2022
Time: 1:30 PM - 3:30 PM
Chairs: Lilian Kow, Scott Shikora

INTEGRATED HEALTH: ADVANCING RIGOR AND INNOVATION OF INTEGRATED HEALTH BARIATRIC SURGERY RESEARCH
Time: 10:30 AM - 12:30 PM
Chair: Dale Bond

Program-At-A-Glance

INTERNATIONAL CLUB OF YOUNG LAPAROSCOPIC SURGEONS (ICYLS): SURGICAL DISEASES IN THE BARIATRIC PATIENT
Time: 1:30 PM - 5:30 PM
Chair: Mariano Palermo
Co-chairs: Marius Nedelcu, Mauricio Sierra, David Nocca

JEOPARDY QUIZ SESSION
Time: 1:30 PM - 3:30 PM
Chair: Osama Hamed
Co-chair: Emanuele Lo Menzo

INTEGRATED HEALTH: ABSTRACTS SESSION
Time: 3:30 PM - 5:30 PM
Chair: Mary O'Kane

NORTH AMERICAN CHAPTER (NAC) SESSION - NEW TECHNOLOGIES
Time: 3:30 PM - 5:30 PM
Chair: Jaime Ponce
Co-chairs: Mohit Bhandari, Aaron Hoffman, Moises Jacobs, Julian Varas, Laurent Biertho

STRATEGIES FOR A SUCCESSFUL CAREER
Time: 3:30 PM - 5:30 PM
Chair: Marina Kurian
Co-chairs: Liza Pompa, Rachel Moore, Michelle Marquez

WORLD GASTROENTEROLOGY ORGANIZATION (WGO) SESSION: LIVER ISSUES IN OBESITY
Time: 3:30 PM - 5:30 PM
Chair: Guilherme Macedo
Co-chair: Lilian Kow

YOUNG IFSO, FRONTIERS AND EMERGING APPROACHES IN BARIATRIC AND METABOLIC SURGERY
Time: 3:30 PM - 5:30 PM
Chair: Halit Eren Taskin
Co-chairs: Diana Gabriela Maldonado, Moritz Felsenreich, Reynu Rajan

Friday, August 26, 2022

WELCOME TO THE FLORIDA, PUERTO RICO, & THE CARIBBEAN ASMBS CHAPTER SESSION: DAY 1
Time: 7:45 AM - 4:00 PM
Chairs: John Paul Gonzalvo, Vicky Blackard

ASMBS TRACK: SESSION 2
Time: 8:00 AM - 3:30 PM
Chair: Mona Misra
Co-chairs: Rachel Moore, Ann Rogers

INTEGRATED HEALTH: PHYSICAL FUNCTION AND ACTIVITY IN BARIATRIC SURGERY
Time: 8:00 AM - 10:00 AM
Chair: Mary O'Kane
Co-chairs: Dale Bond, Ximena Ramos Salas, Cristina Aquino

OBESITY AND IMMUNOLOGY: COVID, CANCER AND TRANSPLANTATION
Time: 8:00 AM - 10:00 AM
Chair: John Morton
Co-chairs: Álvaro García-Sesma, Juan Pablo Pantoja Millán, Gilberto Ungsón

COFFEE BREAK
Time: 10:00 AM - 10:30 AM

PRESIDENTIAL SESSION
Time: 10:30 AM - 1:00 PM
Chairs: Lilian Kow
Co-Chairs: Scott Shikora, Natan Zundel, Raul Rosenthal

LUNCH
Time: 1:00 PM - 2:00 PM

ASIAN PACIFIC CHAPTER (APC) SESSION: CONTROVERSIES IN SLEEVE PLUS AND REVISIONAL SLEEVE
Time: 2:00 PM - 3:30 PM
Chair: CC Wang
Co-chair: Harry Frydenberg

Program-At-A-Glance

EUROPEAN CHAPTER (EC) SESSION: NEW BARIATRIC AND METABOLIC ENDPOINTS
Time: 2:00 PM - 3:30 PM
Chair: Jean-Marc Chevallier
Co-chairs: Jacques Himpens, Gerhard Prager

INTERNATIONAL SOCIETY FOR THE PERIOPERATIVE CARE OF PATIENTS WITH OBESITY (ISPCOP) SESSION: ANESTHESIA AND BARIATRIC SURGERY
Time: 2:00 PM - 3:30 PM
Chairs: Anu Wadhwa, Faruq Badiuddin, Adrian Sultana

MIDDLE EAST & NORTH AFRICA CHAPTER (MENAC) SESSION: THE OAGB IS THE MOST COMMON BYPASS OUTSIDE THE AMERICAS. WILL IT BECOME MAINSTREAM IN THE USA?
Time: 2:00 PM - 3:30 PM
Chair: Khalid Mirza
Co-chair: Khaled Gawdat

ROBOTIC SURGERY, THE FUTURE IS NOW
Time: 2:00 PM - 4:00 PM
Chair: Andre Teixeira
Co-chairs: Erik Wilson, Anthony Gonzalez, Carlos Galvani, Juan Pablo Pantoja

WORLD OBESITY FEDERATION SESSION (WOF): COMBINING MEDICATIONS WITH SURGERY FOR GREATER SUCCESS
Time: 3:30 PM - 5:30 PM
Chair: Johanna Ralston

IFSO CHAPTERS CHAMPIONSHIP - THE ULTIMATE CHALLENGE
Time: 3:30 PM - 5:30 PM
Chair: Rami Lutfi
Co-chairs: Camilo Boza, Jaime Ponce

VIDEOBAR: SOCIEDADE BRASILEIRA DE CIRURGIA BARIÁTRICA E METABÓLICA (SBCBM)
Time: 3:30 PM - 5:30 PM
Chair: Caetano Marchesini
Co-chairs: Marcos Leao, Luiz Vicente Berti, Fabio Viegas

TROPICAL NIGHT CLOSING PARTY
Time: 8:00 PM
Location: Glimmer Ballroom

Saturday, August 27, 2022

INTERNATIONAL SESSION FOR FLUORESCENCE GUIDED SURGERY
Time: 7:50 AM - 12:45 PM
Chairs: Raúl Rosenthal
Co-chairs: Fernando Dip, Natan Zundel

WELCOME TO THE FLORIDA, PUERTO RICO, & THE CARIBBEAN ASMBS CHAPTER SESSION: DAY 2
Time: 8:00 AM - 11:30 AM
Chairs: John Paul Gonzalvo, Vicky Blackard

BARIATRIC VIDEO SESSION 1
Time: 9:00 AM - 10:15 AM
Chair: Alan Saber
Co-chairs: Mohit Bhandari, Luiz Vicente Berti, Richard Peterson, Chetan Parmar, Jordi Pujol, Mohamed Al Emadi, Francisco Zavalza

BARIATRIC VIDEO SESSION 2
Time: 9:00 AM - 10:15 AM
Chair: Marcos Berry
Co-chairs: Felipe Cantú, Luciano Poggi, Luciano Antozzi, Alberto Michel

IFSO VIDEO CASE REPORTS SESSION (VCR): BEST VCR OF THE YEARS 2020 & 2021
Time: 9:00 AM - 12:30 PM
Chair: Ashraf Haddad
Co-chairs: Jan Willem Greve, Abdelrahman Nimeri, Alan Saber, Almino Ramos

Oral Abstracts

O-001

A 21-YEAR EXPERIENCE IN EARLY BLEEDING AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: INCIDENCE, RISK FACTORS AND MANAGEMENT

Post-operative complications

M. Suter[1], M. Odovic[2], C. Chirurgie Vasculaire[2].

[1]General Surgery, Riviera-Chablais Hospital, Rennaz, Switzerland; [2]Service de Chirurgie Viscérale, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland.

Introduction:

The most frequent postoperative complications after laparoscopic Roux-en-Y gastric bypass (RYGB) are post-operative bleeding (POB), anastomotic leak, thrombo-embolic events, respiratory complications, infections, intestinal obstruction. POB is reported with a rate of 0.9-4.4%, with a clear tendency to a lower rate in recent studies.

Objectives:

The aim of this study is to assess the incidence, clinical presentation, risk factors and management of early postoperative bleeding (POB) after laparoscopic Roux-en-Y gastric by-pass (RYGB).

Methods:

Retrospective analysis of prospectively collected data of consecutive patients who underwent laparoscopic RYGB in 2 expert bariatric centers between January 1999 and April 2020, with a common bariatric surgeon.

Results:

A total of 2639 patients underwent laparoscopic RYGB during a 21-year period and were included in the study. Of these, 253 (9,5%) presented at least one postoperative complication and 72 patients (2,7%) presented POB. Intraluminal bleeding (ILB) was present in 52 (72%) patients and 20 (28%) patients presented extra-luminal bleeding (ELB). POB occurred within the first 3 postoperative days in 79% of patients. The most common presenting symptom was tachycardia (n=45, 63%). On univariate analysis, occurrence of POB was associated with male sex (37,5% vs 23,6%, p=0,01), older age (44,9 vs 42,1 years, p=0,04) and high blood pressure (59,7% vs 46,9%, p=0,04). Male sex was the only independent risk factor of POB on multivariate analysis (p<0,01). LOS was significantly longer in patients who developed POB (8,3 vs 3,8 days, p<0,01). Management was conservative in most of the cases (68%). Eighteen patients with ILB (35%) and 5 patients with ELB (25%) required reoperation. Hematochezia and hematemesis were naturally present only in patients with ILB, and abdominal pain was more frequent with ILB, compared to ELB (50% vs. 20%, respectively, p=0.02). One patient with ILB died from multiorgan failure after staple-line dehiscence of the excluded stomach (mortality 0,04%).

Conclusions:

The incidence of POB is low, yet it is the most frequent postoperative complication after RYGB. Male sex is identified as an independent risk factor. Most POB can be managed conservatively while surgical treatment is required for patients with hemodynamic instability or signs of intestinal obstruction due to an intraluminal clot.

O-002

A 50 KG WEIGHT LOSS IN JUST 20 DAYS IS IT POSSIBLE? A RARE CASE REPORT OF PREOPERATIVE PREPARATION

A Critical Review of the Need, or Lack Thereof, of Preoperative Weight Loss

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Introduction:

Preoperative preparation before bariatric surgery is well established and can induce 5% to 10 % weight loss maximally. The case to be presented had a massive weight loss of 50kg in 20 days, such rapid weight loss is not reported earlier.

Objective:

Evaluate modified protocol of preparation of patient with anasarca and BMI 67.3kg/m2 .
Method:

A 44 year-old female with a weight of 163.8 kg and BMI of 67.3 kg/m2 presented to our bariatric clinic with severe sleep apnoea (OSA) with SpO2 78%, Anasarca, inability to walk during preparation for bariatric surgery. Different modalities of therapies like very low-calorie diet (VLCD), high dose of diuretics and liraglutide were used and preoperative weight loss was achieved in 20 days .Renal and cardiac parameters were normal .However daily evaluation of Renal function and electrolytes was necessary. Body composition was done at baseline and 2 weeks.

Results:

Anasarca resolved in 20 days , with a loss of 50 kg in 20days , majority being fluid loss and some fat loss .SpO2 improved to 95%. Subclinical borderline cardiac and renal impairment even though not diagnosed on investigations was proposed to be the aetiology of such anasarca induced by Morbid obesity (MO).Patient underwent surgery on 21st day after preoperative preparation and is followed for 6 weeks at which she lost 60 kg weight (total weight loss) with BMI changed from 61.3kg/m2 to 42.6kg/m2 , SpO2 improved from 78% to 97% and significant resolution of anasarca and improvement in OSA. The total body water dropped from 75 kg to 31 kg.

Conclusion:

Obesity can induce anasarca and fluid retention. However, in absence of abnormal cardiac and renal function such massive anasarca is uncommon. The case shows approach to patient of anasarca and MO and is the first case report of such massive weight loss of 50 kg in just 20 days .The presentation aims at the aetiology and treatment modalities as well as challenges in detail.

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O-003

A CASE-CONTROL STUDY COMPARING OUTPATIENT BARIATRIC SURGERY (ROUX-EN-Y GASTRIC BYPASS AND SLEEVE GASTRECTOMY) VERSUS INPATIENT SURGERY: METHODOLOGY, FEASIBILITY, AND OUTCOMES

Integrated health

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Introduction:

Advances in surgical techniques associated with enhanced recovery programs rendered bariatric surgery feasible within very short hospitalizations. Of note, outpatient procedures are rarely performed.

Objectives:

This study presents the organizational pathway and health interventions included in the care episode for outpatient bariatric surgery, as compared to health interventions usually performed in the care episode for bariatric surgery (Figure 1), and their medico-economic outcomes.

Methods:

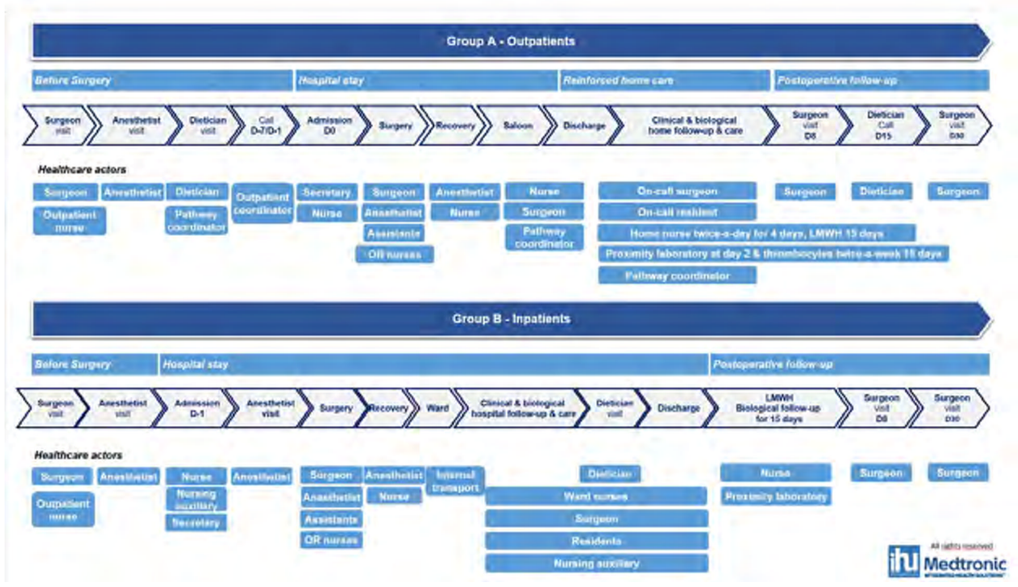
First, an integrated care pathway was formalized, including patient education, enhanced rehabilitation program, first-position surgical planning, home follow-up by a nurse twice a day, and standardized communication to surgeons. A single-center, case-control study was performed. The pairing was based on intervention type, age, and ASA status. Outcomes included length of hospital stay, rate of unexpected events, satisfaction assessment, and integrated care pathway costs. The direct costs were estimated by the micro-costing methodology and Activity Based Costing. Data is expressed as mean +/- standard deviation. This trial has been registered on ClinicalTrial.gov under NCT04423575.

Results:

Between January 2019 and December 2020, 30 patients were considered in each group (outpatient and classical hospitalization). 22 Roux-en-Y gastric bypass procedures and eight sleeve gastrectomies were performed in each group. The male-to-female ratio was 1/2. In the outpatient versus the inpatient group, age was equivalent (36.7+/-11.1 versus 37.3 +/- 10.8 years, p>0.5), just like the ASA score (p>0.5), the number of comorbidities (1.77 versus 1.44, p=0.258), and BMI (42.9+/-4.9 versus 42.6+/-4.6 p>0.5). The length of hospital stay was significantly shorter in the outpatient group (0.65+/-0.33, versus 2.9 +/- 0.4 days, p<0.0001). In the outpatient group, there were seven overnight stays (23.3%), three readmissions (10%), and four unscheduled consultations (13.3%). The cost of the care episode was estimated at 4272.9 +/- 589.7€ for the outpatient group versus 4993.7+/- 695.6 € for the hospitalization group, corresponding to a 14.4% cost reduction (p=0.0254). All patients recommended this healthcare pathway.

Conclusion:

Outpatient bariatric surgery appears to be feasible. It involves a specific organization, home supervision, and a medical referent who can be permanently reached by patients and nurses. It appears to be advantageous in terms of length of stay, costs, and patient satisfaction.



O-004

A CASE OF DEVASCULARISED STOMACH POST SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS

SADIs

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Introduction:

Laparoscopic SADI has gained increasing popularity as a weight loss procedure with excellent short- and long-term outcomes. Various groups describe different techniques to performing the duodenal dissection, with some advocating for ligation of the right gastric artery, whilst others performing a minimal dissection retro duodenal tunnel.

Objectives:

We describe the anatomical considerations when performing SADI and the risks of revascularizing the stomach if the right gastric artery is ligated.

Methods:

A 47-year-old underwent a laparoscopic SADI 10 years post her laparoscopic sleeve gastrectomy. Her original BMI was 40 and she had a remarkable result post sleeve gastrectomy. Unfortunately following a MVA and a sustained period of immobility, she regained a considerable amount of weight and sought revision bariatric surgery.

Results:

A laparoscopic SADI was performed with no modification of the original sleeve gastrectomy. The right gastric artery was ligated with an energy device and a 2-layer hand sewn duodenal-ileal anastomosis performed with a 3-metre common channel. On day 3 post operatively, patient experienced abdominal pain with a peritonitic examination however unremarkable abdominal CT. A relook laparoscopy revealed a revascularized stomach with an intact anastomosis. A subtotal gastrectomy with Roux-En-Y reconstruction was performed. Patient subsequently developed stenosis of the gastrojejunostomy which required serial dilatation.

Conclusion:

Although the stomach is well vascularised, preservation of the right gastric artery during SADI should be considered, especially in the context of aberrant anatomy. Whilst an extremely uncommon complication, early recognition of a usual clinical course resulted in a favourable clinical outcome.

O-005

A CLOSE LOOK ON THE ROLE OF ROUTINE UPPER ENDOSCOPY BEFORE BARIATRIC SURGERY IN THE MIDDLE EAST POPULATION: REVIEW OF 1278 PATIENTS.

The recommendation and role of endoscopy before bariatric surgery

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Introduction:

The routine use of preoperative upper endoscopy for patients undergoing bariatric surgery is controversial. Although many surgeons find it not needed; others still consider it a mandatory tool in preoperative assessment.

Objectives:

Our study aims to determine whether upper endoscopy should be routinely implemented before bariatric surgery or not.

Setting:

Governmental and University Hospital

Methods:

We reviewed the medical records of all patients who had a preoperative endoscopy before bariatric surgery in our unit between January 2013 and June 2016. Patients were divided into 3 groups: Group 0 included patients with normal endoscopy, Group 1 included abnormalities that did not affect the timing or type of procedure (simple gastritis, simple duodenitis, and small hiatal hernia), Group 2 included abnormalities that had a direct impact on the procedure (Esophagitis and Barrett's Esophagus, large hiatal hernia, erosive gastritis or duodenitis, peptic ulcer, and mass lesions or cancer).

Results:

The files of 1473 patients were reviewed. The endoscopy results were not present in 195 files, they were excluded, and the remaining 1278 files were included. The mean age of patients was 41.3+/-12.7 years, 61% were females and 39% were males. The mean BMI was 43.7 +/-8 kg/m2. Endoscopy was normal in 10.5% of patients and abnormal in 89.4%. The most common abnormalities were gastritis, positive Campylobacter-like organism test (CLO test), Gastro-Esophageal Reflux Disease (GERD) with esophagitis, and hiatal hernia. Group 0 included 10.5% of patients (n=135), Group 1 included 25.6% of patients (n=327) while Group 2 included 63.8% of patients (n=816).

Conclusion:

Routine upper endoscopy seems an important part in the preoperative preparation of patients planned for bariatric surgery in the Middle East population. Further studies or meta-analyses could help in building up clear solid evidence and guidelines that could be approved by international bariatric associations regarding the indication of preoperative upper endoscopy for bariatric patients.

O-006

A COMPARISON OF POST-OPERATIVE RADIATION EXPOSURE IN PATIENTS WITH ROUX-EN-Y GASTRIC BYPASS AND SLEEVE GASTRECTOMY

Endoscopic and percutaneous interventional procedures

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Background / Introduction:

A Roux-en-Y gastric bypass (RYGB) is technically more complex than a sleeve gastrectomy (SG) resulting in higher clinical suspicion for complications when patients are seen postoperatively. Evaluation of these patients post-operatively often involves radiation exposure in the form of abdomen CT scans.

Objectives:

The primary outcome measure of this study was radiation exposure from abdomen CT scans in patients with RYGB and SG with the hypothesis that RYGB patients would have higher cumulative radiation exposure. Secondary outcome measures were radiation exposure in those with higher and lower BMI (BMI < 45 kg/m2 and BMI ≥ 45 kg/m2) and in male and female patients.

Methods:

Using Epic software followed by manual chart checking we generated a list of patients who had undergone an SG or RYGB at our institution between the dates April 1, 2019, to May 3, 2021. We found 540 patients (SG = 403, RYGB = 137). We collected the following data points: age and BMI at time of operation, gender, date of operation, number of abdomen CT scans, and cumulative radiation exposure (DLP in mGy cm) after surgery. $p < 0.05$ was considered to be statistically significant.

Results:

In 403 SG patients, 54 abdomen CT scans were performed (mean = 0.134; 95% CI: 0.0912-0.177) with average cumulative radiation exposure of 180 mGy cm (95% CI: 116-245) per patient. In 137 RYGB patients 49 abdomen CT scans were performed (mean = 0.358; 95% CI: 0.235-0.480) with average cumulative radiation exposure of 377 mGy cm (95% CI: 235-519) per patient. Both the average number of CT scans (p=0.001) and cumulative radiation exposure (p=0.013) were found to be significantly higher in RYGB compared to SG. Average number of CT scans was found to be significantly higher in patients with BMI < 45 kg/m2 at time of operation (0.224 vs 0.131; p = 0.028). No significant gender differences were noted in post-operative radiation exposure.

Conclusion:

In this study, RYGB patients had higher radiation exposure post-operatively than SG patients over a period of just over 2 years. With longer follow up the difference in radiation exposure may be even larger. The negative effects of increased radiation exposure should be weighed against the benefits of a RYGB when choosing between these two operations. Patients with lower BMIs seem to also have a higher radiation exposure. Gender does not predispose to increased radiation exposure post-operatively.

O-007

A GLOBAL COLLABORATIVE RETROSPECTIVE STUDY: OESOPHAGEAL AND GASTRIC MALIGNANCIES AFTER BARIATRIC SURGERY

Bariatric surgery and cancer

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Background:

Bariatric surgery can influence the presentation, diagnosis, and management of gastrointestinal cancers. Oesophago-Gastric (OG) malignancies in patients who have had a prior bariatric procedure have not been fully characterised.

Objective:

To characterise OF malignancies after bariatric procedures.
Setting: University Hospital, United Kingdom.

Methods:

We performed a retrospective, multi-centre observational study of patients with OG malignancies after bariatric surgery to characterise this condition. Centres globally were invited via email and social media to submit their cases for this study.

Results:

This study includes 170 patients from 75 centres in 25 countries who underwent bariatric procedures between 1985 and 2020. At the time of the bariatric procedure, the mean age was 50.2 ± 10 years and the mean weight 128.8 ± 28.9 kg. Females comprised 57.3% (n=98) of the population. Most (n=64) patients underwent a Roux-en-Y Gastric Bypass (RYGB) followed by Adjustable Gastric Band (AGB) (n = 46) and Sleeve Gastrectomy (SG) (n = 43).

Time to cancer diagnosis after bariatric surgery was 9.5 ± 7.4 years and mean weight at diagnosis was 87.4 ± 21.9 kg. The time lag was 5.9 ± 4.1 years after SG compared to 9.4 ± 7.1 years after RYGB and 10.5 ± 5.7 years after AGB.

One-third of patients presented with metastatic disease. The majority of tumors were adenocarcinoma (82.9%). Approximately 1 in 5 patients underwent palliative treatment from the outset. Time from diagnosis to mortality was under one year for most patients who died over the intervening period.

Conclusion:

The OGMOS (Oesophago-Gastric Malignancies after Obesity/ Bariatric Surgery) study presents the largest series to date of patients developing OG malignancies after bariatric surgery and attempts to characterise this condition. Note: This study is now already published in SOARD (as the IFSO congress was postponed from 2021). However since this congress is in USA and it is the largest series till date we have submitted it to the IFSO. OGMOS team is happy if the abstract is not published in their official journal. The idea of this submission is to increase awareness that OG cancer after bariatric surgery are rare and it is safe.

O-008

A NEW METHOD FOR VOICE ANALYSES TO DIFFERENTIATE OBESE PATIENTS FROM HEALTHY INDIVIDUALS: A PILOT STUDY

Artificial intelligence

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Background / Introduction:

Each person has a unique voice that is influenced by the state of our internal organs, brain activity and other conditions. Variation of specific vocal parameters have been demonstrated to correlate with different pathologic conditions1,2,3,4.

Objectives:

The objective of this study was to test whether voice analysis through Machine Learning algorithms could distinguish between obese patients from healthy individuals.

Methods:

Voice samples of healthy subjects and of patients with a BMI > 25 Kg/m2 were recorded during sustained vowel emission in different vocal tasks, using a high-definition audio recorder. Voice samples underwent sound signal analysis, including power spectral analysis and support vector machine classification (SVM), considering 6373 voice features included in the INTERSPEECH2016 Computational Paralinguistics Challenge (IS ComParE 2016) feature data set5. Validation of this technology has been already demonstrated in previous clinical studies 1,2,3.

Results:

62 subjects were enrolled in the study, of those, 31 were obese patients (10 were males and 21 females) with a mean age of 55.26±11.8 years and a mean BMI of 38.72 ± 17.94 Kg/m2. Among the 31 controls, 21 were females and 10 males with a mean age of 54.83 ± 17.94 years and a mean BMI of 22.76 ± 1.80 Kg/m2. Voice analysis with SVM classifier was able to objectively identify obese patients with an accuracy ranging from 69.17% to 96.66% according to the different vocal tasks analyzed.

Conclusion:

Voice spectral analysis through SVM classifier was capable of distinguishing obese patients from healthy individuals. This is an early demonstration of the capabilities of such technology. Further studies are ongoing to validate its application to other clinically relevant features, with the aim of providing a comprehensive tool that would potentially support surgeons and clinicians in their daily practice.

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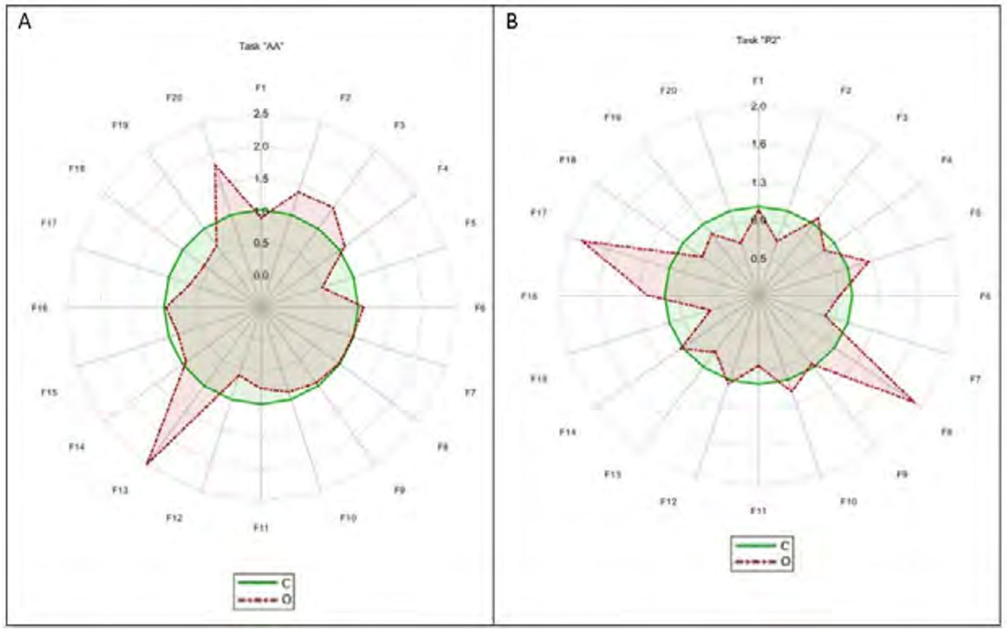

O-009

A NOVEL CLASSIFICATION FOR GERD PATTERNS AFTER SLEEVE GASTRECTOMY AND A PROPOSED ALGORITHM FOR ITS MANAGEMENT

GERD and bariatric surgery

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Introduction:

Sleeve gastrectomy has become one of the most popular surgical treatments for obesity and is now accepted as a primary bariatric procedure. However, there are reports that sleeve gastrectomy may cause de novo gastro-esophageal reflux disease or worsen pre-existing GERD, the mechanism of this phenomenon seems to be multifactorial; The gastric tubulization should promote the development of hiatal hernias or sliding of the proximal portion of the sleeve into the mediastinum, the modification of the sphincterian apparatus resultant after fundus resection and partially cutting the sling muscular fibers of the G-E junction may promote reflux of gastric content into the esophagus), also some technical details seem to favor GERD after sleeve gastrectomy. Main technical issues are the narrowing of the mid-portion of the gastric sleeve, due to strictures or twists; also fundus retention or a redundant upper part of the sleeve can be a factor promoting reflux.

Objectives:

Using imaging assessment of the anatomy of the gastric remnant after sleeve gastrectomy (3D CT and gastric volumetry) and functional studies such as impedance-pH monitoring and esophageal manometry, patients can be assigned to different groups with different potential therapeutic options.

Methods:

We propose a novel classification of the different patterns and causes of GERD after sleeve gastrectomy (five different types) and suggest an algorithm for the evaluation and treatment of this condition.
Type I: Normal Sleeve Anatomy and Lower esophageal sphincter pressure low.
Type II: Normal lower esophageal sphincter, stricture, or distortion of the sleeve anatomy.
Type III: Stricture or distortion of the sleeve anatomy and Lower esophageal sphincter pressure under normal values.
Type IV: No factors identified.
Type V: Non acid Reflux.

O-010

A NOVEL SUTURING DEVICE FOR ENDOSCOPIC GASTROPLASTY IN ROUTINE CLINICAL PRACTICE: PROSPECTIVE REGISTRY TRIAL

Endoscopic and percutaneous interventional procedures

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Background:

Endoscopic gastroplasty is safe and effective in patients with class I and II obesity (Body Mass Index 30-40 Kg/m2). The total number of bariatric endoscopic procedures is constantly increasing in routine clinical practice. In fact this technique, associated with diet and lifestyle modifications is safe, mini-invasive and is characterized by a lower rate of complications compared to bariatric surgery. In the past years several endoscopic techniques have been used for the gastric endoscopic tubulization. We present our results from a prospective clinical trial evaluating the role of the Endomina system (E-ESG, Endo Tools therapeutics, Belgium). The aim was to evaluate the mean total body weight loss (TBWL) and the mean excess weight loss (EWL) at 6 and 12 months.

Methods:

From July 2020 to May 2021 we enrolled in our Center 23 patients (19 female, 4 male) with class I and class II obesity (Body Mass Index 30-40 Kg/m2). The mean age was 45.9 years. Endoscopic gastroplasty was performed under general anesthesia using CO2 insufflation. No procedure complications or device-related severe adverse events were observed and patients were discharged 24 hours following the procedure. All patients were followed by our multidisciplinary team (gastroenterologist, nutritionist, endocrinologist, psychologist) for a total of 12 months after the endoscopic gastroplasty (1,3,6,9,12 months visit).

Results:

At 6 months mean EWL was 62,56 % and mean TBWL was 16,89 % with a higher mean quality of life (QoL) compared to that before the procedure. The 12 months follow-up after the endoscopic gastroplasty is still ongoing; from the 23 patients initially enrolled 12 completed the follow-up with good results. In fact at 12 months the mean EWL was 58,76 % and the mean TBWL was 16,25%.

Conclusions:

In our clinical experience, endoscopic vertical gastroplasty in combination with diet and lifestyle modifications is a safe and effective option for patients with class I and II obesity. Further data on a larger sample of patients is needed.

O-011

A SMARTPHONE APPLICATION TO IMPROVE ADHERENCE TO VITAMIN AND MINERAL SUPPLEMENTATION AFTER BARIATRIC SURGERY: A RANDOMIZED CONTROLLED TRIAL

Pre and post nutritional deficiencies

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Introduction:

Previous studies suggest insufficient adherence to vitamin and mineral supplementation after bariatric surgery.

Objective:

This trial evaluated a smartphone application's effectiveness in improving adherence to vitamin and mineral supplementation postoperatively.

Methods:

A two-arm, randomized controlled trial comprising 140 patients undergoing bariatric surgery (gastric bypass or sleeve gastrectomy). Participants were randomized 1:1 post-surgery to 12-week intervention, using the smartphone application PromMera, or standard care. The PromMera application was designed to promote vitamin and mineral use and physical activity after bariatric surgery. The primary end point was adherence to vitamin and mineral supplementation, objectively assessed with pharmacy claim data the first-year post-surgery. Additional endpoints were adherence subjectively assessed with change in MARS-5 score, measured pre-intervention, and at 18 weeks and one year post surgery and development of nutritional deficiencies one-year post-surgery.

Results:

Initiation rate and overall adherence to supplementation were high in both groups. Change in objectively measured adherence rate from before intervention to 1 year post surgery, measured with pharmacy refill data, did not differ between groups for vitamin B12 (-9.6% [SD 27%] vs. -9.3% [SD 30%]; p=0.48) or calcium/vitamin D (-12.3% [SD 29%] vs. -11.5% [SD 32%]; p=0.44). A modest effect on the secondary end point (subjectively measured adherence, using the Medication Adherence Report Scale-5 [MARS-5]) was seen immediately after the intervention (intervention group 0.00 [SD 1.3] vs. control group -1.2 [SD 3.5]; p=0.021), but this effect did not persist 1 year post surgery. No differences were detected in the prevalence of biochemical deficiencies.

Conclusions:

The use of the smartphone application PromMera did not obtain a lasting improvement in adherence to vitamin and mineral supplementation one year post bariatric surgery.

Adherence to vitamin B12 and calcium/vitamin D and change in adherence, before and after smartphone application intervention in patients after bariatric surgery and in controls receiving standard care.

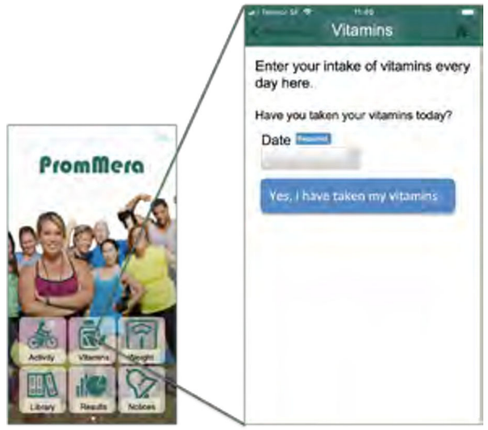
A. Objectively measured adherence

	Intervention group (n = 71)			**Control group** (n = 69)			
	Week 0–6 (n = 65)	**Weeks 18–52** (n = 65)	**Change** (n = 65)	**Week 0-6** (n = 58)	**Weeks 18–52** (n = 58)	**Change** (n = 58)	**p-value change**
Vitamin B_{12} adherence rate (%)	93.4 (SD 24)	83.8 (SD 27)	-9.6 (SD 27)	96.6 (SD 18)	87.9 (SD 24)	-9.3 (SD 30)	0.48
Calcium/vitamin D adherence-rate (%)	91.8 (SD 26)	79.5 (SD 30)	-12.3 (SD 29)	94.8 (SD 22)	83.3 (SD 27)	-11.5 (SD 32)	0.44

B. Subjectively measured adherence

	Intervention group (n = 71)			**Control group** (n = 69)				
	Week 6 (n = 63)	**Week 6→18** (n = 47)	**Week 6→52** (n = 52)	**Week 6** (n = 59)	**Week 6→18** (n = 47)	**Week 6→52** (n = 54)	**p-value week 6→18**	**p-value week 6→52**
MARS-5 score at baseline (week 6) and change from baseline	24.2 (SD 1.3)	0.00 (SD 1.3)	-0.40 (SD 2.0)	24.3 (SD 1.2)	-1.2 (SD 3.5)	-0.9 (SD 2.1)	0.021	0.13

A: Adherence was objectively assessed with pharmacy refill data, from the Swedish Prescribed Drug Register, and CMA7 was used for calculations. The adherence rate was measured from surgery until the start of intervention, and from end of intervention until 1 year post surgery. The change in adherence from before intervention to after intervention was compared between the intervention group and the control group. Data are presented as mean (SD).
B: MARS-5 scores range from 5 to 25, where a higher score indicates higher adherence to vitamin and mineral supplementation. The two p-values in part B of the table represent the change from baseline to the end of intervention and the change from baseline to 1 year post surgery, respectively. Data are presented as mean (SD).



O-012

A STUDY (UPDATES) IN TERTIARY CARE HOSPITAL TO SHOW THE DIFFERENCE IN CHANGES IN LIPID PROFILE AFTER BARIATRIC SURGERY- SLEEVE GASTRECTOMY AND LAPAROSCOPIC MINI-GASTRIC BYPASS

Perioperative management

Z. Gondal.

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Background:

Obesity is associated with increased mortality due to higher cardiovascular risk. Some proportion of the risk is attributed to dyslipidemia in the form of high levels of serum total cholesterol, triglycerides, and low levels of HDL cholesterol. Both procedures the sleeve gastrectomy (LSG) and gastric bypass (LGB) had shown to have some positive effects on lipid profile with some variability in improvement. We aimed to study the difference in changes in lipid profile after LSG and LGB.

Methods:

This study was performed as a retrospective case-matched study which compared effects of LSG and LMGB on lipid profile of patients who underwent bariatric surgery in the year 2014 and 2016. The matching was done based on criteria of initial body mass index (BMI).

Results:

Out of a total 240 selected patients, 116 patients underwent LSG and 124 patients underwent LMGB. There was a significant improvement in all four measures of lipid in LMGB group. While serum triglycerides and HDL cholesterol improved significantly but no significant reduction in serum total cholesterol and LDL cholesterol was observed in LSG group. There was a significant reduction in cardiovascular risk calculated as total cholesterol: HDL cholesterol ratio following bariatric surgery overall (p = 0.002)., LSG (p=0.002) but insignificant in LMGB (p = 0.388).

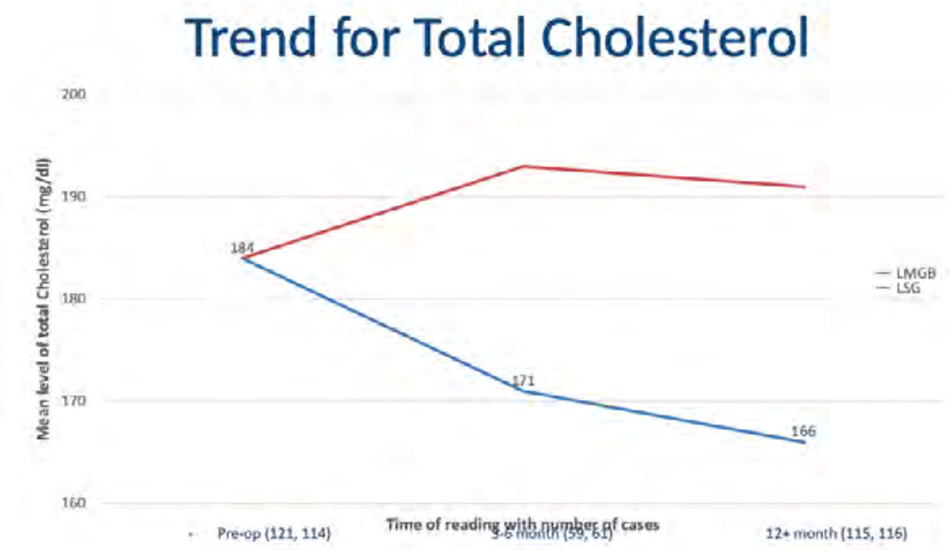
Conclusion:

LMGB have better effects on lipid profile as compared to LSG. LSG had better effect in terms of reducing cardiovascular risk attributed to obesity in UAE obese population. Thus, sleeve gastrectomy may be considered as effective as a gastric bypass for dyslipidemia improvement in UAE patients.

Keywords: Dyslipidaemia. Lipid profile. Bariatric surgery. Sleeve gastrectomy. Gastric bypass.

Statistical Analysis

		TYPE OF SURGERY				
	Time (n_1, n_2)	LMGB n_1 = 121		LSG n_2 = 116		P-value (Mann Whitney U)
		Mean	SD	Mean	SD	
Total cholesterol	Pre-op (121, 114)	184	34	184	38	0.803
	3-6 month (59, 61)	171	32	193	37	0.003
	12+ month (115, 116)	166	34	191	45	<0.001
P-value (Friedman ANOVA) (51, 60)		0.001		0.784		
P-value (Wilcoxon pre vs 12 m) (113, 114)		<0.001		0.223		
Triglycerides	Pre-op (121, 114)	123	64	114	57	0.205
	3-6 month (60, 61)	106	38	107	36	0.680
	12+ month (114, 116)	81	35	88	35	0.059
P-value (Friedman ANOVA) (51, 60)		<0.001		0.001		
P-value (Wilcoxon pre vs 12 m) (112, 114)		<0.001		<0.001		
HDL	Pre-op (111,110)	49	15	50	15	0.915
	3-6 month (55, 60)	49	17	51	16	0.189
	12+ month (113, 112)	59	15	62	17	0.583
P-value (Friedman ANOVA) (66, 58)		<0.001		<0.001		
P-value (Wilcoxon pre vs 12 m) (102, 107)		<0.001		<0.001		
LDL	Pre-op (111, 110)	119	31	118	34	0.752
	3-6 month (53, 60)	107	32	127	33	0.008
	12+ month (112, 112)	96	31	117	41	<0.001
P-value (Friedman ANOVA) (64, 58)		<0.001		0.690		
P-value (Wilcoxon pre vs 12 m) (101, 107)		<0.001		0.304		



ORAL ABSTRACTS

O-013

ABBREVIATED STAY POST-BARIATRIC SURGERY: A REAL POSSIBILITY WITHOUT INCREASING COMPLICATIONS OR READMISSION OF PATIENTS

Enhanced recovery in bariatric surgery

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Introduction:

New techniques in bariatric surgery have allowed us to reduce complications and surgical mortality. These improvements have made it possible to reduce the hospital stay and accelerate the recovery process, allowing a potential early discharge protocol.

Objectives:

To describe the experience in the use of a protocol designed for an abbreviated stay, in post-operated bariatric surgery patients.

Methodology:

Analytical, retrospective cohort study. A cohort of patients who underwent bariatric surgery, at the Santa María Clinic, by a single surgeon, between July 2014 and April 2019 and submitted to a designed early discharge protocol was considered. Morbidity, mortality, readmissions, and reoperations were recorded in the established period of time.

Results:

A total of 775 patients were included, 654 patients undergoing laparoscopic sleeve gastrectomy (GEM) and 101 patients undergoing Roux-en-Y gastric bypass (RYGB). There were 8 complications, with no recorded mortality. The readmission / reoperation rate was 4.13% / 2.27% for GEM and 4.55% / 3.53% for RYGB.

Conclusions:

In this group of patients, we were able to demonstrate a low rate of complications, which supports the idea that an early discharge protocol in patients undergoing bariatric surgery is a feasible and safe alternative.

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O-014

ABDOMINAL COMPLIANCE AND BARIATRIC SURGERY: WALL THICKNESS IS THE MAIN FACTOR CORRELATED TO THE VALUE OF PNEUMOPERITONEUM PRESSURE

Basic science and research in bariatric surgery

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Introduction:

Bariatric surgery guidelines impose the use of the lowest possible intra-abdominal pressure allowing adequate exposure of the operative field.

Objectives:

Defining which parameters significantly influence the minimal intra-abdominal pressure to safely perform a bariatric laparoscopic procedure. Assessed factors believed to influence the intra-abdominal pressure during laparoscopy were history of previous pregnancy and/or laparoscopy and/or abdominoplasty, the thickness of the abdominal wall, the diameter of the abdominal wall, and the xypho-pubic distance

Methods:

This is an observational retrospective study. Parameters from primary and secondary laparoscopic bariatric surgeries from November 19, 2020, to February 20, 2021 (69 patients) had been prospectively registered. The width of the abdominal wall was measured preoperatively using a Tuohy needle inserted under direct vision under the last left rib. Xypho-pubic distance and abdominal girth were measured by a tape measure with the patient standing up immediately before the procedure.

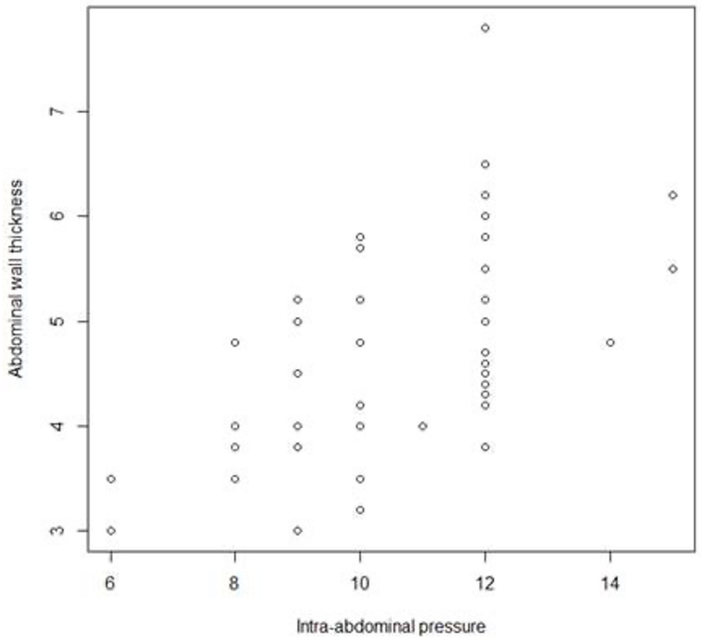
When continuous variables were compared between the groups, we tested the underlying hypotheses of the T-test. If both underlying hypotheses were met, a T-test was performed on the data and the mean ± standard deviation were presented. Otherwise, the Wilcoxon signed-rank test was performed and the median and inter-quartile [Q25 – Q75] values presented. We calculated the Pearson's correlation between two continuous variables.

Results:

VariableVariable = NOVariable = YESp-value
Previous pregnancy12 [9.25 – 12]10 [9 – 12]0.3066
Previous Abdominoplasty11.5 [9 – 12]12 [12 – 12]0.4283
Previous laparoscopy10 [9 – 12]12 [10 – 12]0.4527
Pneumoperitoneum pressure
Wall thickness 0.5890563 (p-val<0.001)
Abdominal diameter0.2386207 (p-val=0.05182)
Xypho-pubian distance0.1696185 (p-val=0.170)
Based on univariate analyses, the variables that could be kept for multiple regression were abdominal wall thickness and abdominal diameter. Abdominal diameter was rejected from the multiple regression (p-value= 0.538). The abdominal wall thickness was the only significant parameter, explaining 34.70% of the target.
Estimate Std. Error t value Pr(>|t|)
Intercept5.19610.96155.404<0.001
Wall thickness 1.15400.19795.832<0.001

Conclusion:

The thickness of the abdominal wall is the main parameter that can predict the value of minimal pressure for safe bariatric laparoscopy.



O-015

AFRICAN AMERICAN PATIENTS EXPERIENCE POORER OUTCOMES THAN HISPANIC PATIENTS FOLLOWING BARIATRIC SURGERY: AN ANALYSIS USING THE MBSAQIP DATA REGISTRY

Endoscopic and percutaneous interventional procedures

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Background:

Hispanics and African Americans (AA) represent a disproportionately high percentage of the obese population in the United States; however, rates of bariatric surgical procedures in both populations remain notably lower than in Caucasian Americans. In this study, we examine data from the MBSAQIP database to investigate differences in demographics and outcomes between AA and Hispanics undergoing sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB).

Methods:

The MBSAQIP database was reviewed. Adult (>18 years of age) AA and Hispanic patients who underwent SG or RYGB from 2015-2018 were identified. Propensity-matched and unmatched data were examined based on procedure to assess for differences in preoperative demographics and outcomes between ethnic groups.

Results:

Overall, 174,475 patients met the inclusion criteria (98,736 AA [21,163-RYGB; 77,022-SG] and 75,739 Hispanic [20,282-RYGB; 54,690-SG]). Within the total patient cohorts, AAs were older (42.9 versus 40.9-years), had higher BMI (47.1 versus 44.8Kg/m2), and were more frequently female (86.6 versus 80.0%) compared to Hispanics ($p<0.0001$ all parameters). Preoperative comorbidities revealed AAs had higher rates of hypertension (54.6 versus 38.2%), renal insufficiency (1.1 versus 0.4%), chronic obstructive pulmonary disease (1.51 versus 0.96%) and sleep apnea (35.4 versus 31.5%) compared to Hispanics ($p<0.0001$ all parameters). In unmatched data, AAs were more likely to experience major complications (1.6 versus 1.0%), unplanned ICU admission (0.8 versus 0.5%), 30-day re-admission (1.7 versus 1.2%), and additional intervention within 30-days (5.0 versus 3.7%) compared to Hispanics ($p<0.0001$ all parameters). Significant differences in major complications, 30-day readmission and intervention within 30-days remained for both SG and RYGB after matching ($p<0.002$). There were significantly more inpatient AA deaths following SG (0.1 versus 0.0%, $p<0.001$) but not after RYGB (0.1 versus 0.1%, $p=0.41$) in matched cohorts. Rates of minor complications were similar across groups (1.35% vs 1.36%, $p= 0.9113$).

Conclusion:

Hispanics and AAs undergo disproportionately less bariatric surgery than their contribution to the obese population would predict. Outcomes for AAs were worse than those of Hispanics, even with propensity matching. These data suggest differences in outcomes following RYGB or SG are not entirely attributable to preoperative comorbidity profiles. Further investigation is warranted.

O-016

AI IN BARIATRICS

Artificial intelligence

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Introduction:

Artificial intelligence refers to the use of machines to mimic the cognitive functions of humans, namely learning and problem-solving. The founder of Artificial intelligence is John McCarthy, an American computer scientist. The founder of the Turing test was Alan Turing, a mathematician, and a computer scientist. The Turing test is done to determine whether a computer is capable of thinking like a human.

Objectives:

In this, a series of questions are presented by a human to two different respondents. The questioner then analyses the response and determines which respondent is a robot and which is a human.

Uses of AI in Bariatric Surgery:

- It is helpful in the construction of predictive models for post-op complications like a gastrointestinal leak.
- It assists in the prediction of loss of excess weight following bariatric surgery.
- It also supports automated recognition of operative steps, like in laparoscopic sleeve gastrectomy

Artificial Neural Network:

- Artificial neural network is a principal tool in artificial intelligence, which is based on the neural circuits in the human brain.
- It is made up of units called perceptrons which contain 3 layers.
- The inputs are received by the first layer.
- The hidden layer, also known as the middle association layer, may be single or multiple and connects the input layer randomly to the output layer.
- The output layer generates a response based on the input provided. This is done by the response cell which receives the strongest input, which in turn suppresses other cells receiving weaker signals

Gradient Boosting Machine:

- This is another important tool in artificial intelligence which helps in machine learning. It helps in converting machines from weak learners to strong learners.
- The data is presented in the form of a tree to determine the various factors influencing the accurate prediction.
- This is done by training a decision tree in which each observation is assigned equal weight.
- The first tree is evaluated and those observations in which the machine performs poorly are given more weights than others where the performance is good.
- Based on these modifications of weightage, a second tree is grown, improving the predictions of the first tree.
- The final model is thus a sum of all predictions made by previous tree models, providing maximum accuracy.

O-017

AMBULATORY BARIATRIC SURGERY IS SAFE AND FEASIBLE. EXPERIENCE FROM A HIGH VOLUME BARIATRIC CENTER

Enhanced recovery in bariatric surgery

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Introduction:

Enhanced recovery protocols came to laparoscopic surgery care in the late 1990s. They have brought faster recovery, fewer complications and a reduction in hospitalization time.
Shorter hospital stay results in less infections, greater comfort for the patient and lower cost.

Objectives:

To assess the feasibility and safety of outpatient bariatric surgery in a high-volume bariatric center.

Methods:

Retrospective review of a prospective database of all patients undergoing Sleeve Gastrectomy (SG), One Anastomosis Gastric Bypass (OABG), Roux-en-Y Gastric Bypass (RYGB) and revisional surgery (RS) after implementing enhanced recovery protocols. Inclusion criteria was age between 18 and 65, BMI lower than 65, no use of anticoagulants and no severe medical conditions.

Anthropometric data, comorbidities, length of stay, need for readmission or reoperation and 30-day morbidity were recorded

Results:

From March 2021 to March 2022, 550 patients underwent bariatric surgery. Thirty nine did not fulfill outpatient criteria, and 17 were excluded for patient preference.

Of the 494 included patients 86.4% were female, mean BMI was 44.4 (28.7-64.9, SD 6.2) and age 41 (18-65, SD 9.9). 69.4% were SG, 4.5% RYGBP, 21.8% OAGBP and 4.3% RS. Twenty-four (4.9%) required a longer than 24 hours stay; being liquid intolerance (45.8%) the most frequent cause, followed by significant intra operative bleeding (25%) and longer than expected surgery (12%). Readmission rate was 2.8%, and 1.4% required reoperation.

There was no difference in age, BMI, presence of hypertension on diabetes or smoking between the outpatient group or the one requiring longer stay or readmission. Males had a higher readmission rate (6% vs 1.6%, P=0,02), as did RYGBP (4.5%) and OAGB (3.7%) when compared to sleeve gastrectomy (1.7%)

After adjusting by age, BMI, diabetes, hypertension, smoking, type of surgery and surgeon, being male remained an independent risk factor for readmission.

Conclusion:

Outpatient bariatric surgery is feasible and safe. Readmission and reoperation rate where acceptable. Males and those undergoing RYGBP and OAGB seem to suffer a higher readmission rate. Enhanced recovery protocols may play an important role in outpatient bariatric surgery.

O-018

AN EXPLORATION OF THE PATIENT LIVED EXPERIENCE OF REMISSION AND RELAPSE OF TYPE 2 DIABETES FOLLOWING BARIATRIC SURGERY

Type 2 diabetes and metabolic surgery

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Introduction:

Bariatric surgery is widely recognized as one of the most effective treatments for patients with obesity and type 2 diabetes (T2DM), inducing profound metabolic changes associated with improvements in glycemic control. A growing evidence base from longer-term studies would however suggest that some of these metabolic improvements are attenuated over time and a proportion of patients will experience a relapse of diabetes. Although we continue to deepen our understanding of the mechanisms underlying the physiological changes associated with bariatric surgery as well as the long-term metabolic effects, what remains underappreciated is the patient experience of surgery to treat T2DM including motivations, expectations, and perception of relapse.

Objectives:

This study explored the patient experience with regards to motivations, expectations, and outcomes, including remission and relapse of diabetes following bariatric surgery.

Methods:

An in-depth qualitative approach was adopted, encompassing semi-structured1:1 interviews with patients (n=17) living with obesity and T2DM both pre-and post-surgery. Interpretive thematic analysis identified emergent themes using a grounded approach.

Results:

Analysis revealed a number of themes throughout the interviews which included motivations and perceived benefits of surgery, obesity stigma and its impact on self-worth as well as perceptions of remission or relapse and the implications for a sense of control.

Conclusions:

The primary motivation for undergoing bariatric surgery was driven by health concerns, namely T2DM and the desire to reduce the risk of developing diabetes-related complications. Patients highlighted widespread and pervasive social and self-stigmatization associated with obesity and T2DM, leading to feelings of shame and an inability to seek support from family or healthcare professionals. Stigmatization created a sense of failure and a feeling of guilt for having T2DM. As a result, patients felt responsible for maintaining disease remission postoperatively and regarded the need for medication as a sign of treatment failure.

This research highlighted that our understanding of the patient's experience of bariatric surgery as a treatment for T2DM is lacking and a greater understanding of the motivations and expected benefits of surgery is required to facilitate the delivery of patient-centered care.

O-019

ANALYSIS OF STAPLE LINE REINFORCEMENT ON CONTEMPORARY STAPLERS: A BENCHTOP ANALYSIS

Basic science and research in bariatric surgery

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Objective:

Modern surgical stapling has revolutionized laparoscopic gastrointestinal procedures. However, two major drawbacks of stapling technology include staple line bleeding and leaks. A variety of methods have attempted to minimize these, including staplers with shorter staple height, oversewing, and use of staple line reinforcement (SLR). The use of SLR to strengthen the staple line has not been studied by all manufacturers. We hypothesize that SLR will increase the burst pressure of three commonly used staplers in a benchtop burst pressure test.

Methods:

Our design included the use of one of the most widely used SLR product (GORE® SEAMGUARD® Bioabsorbable Staple Line Reinforcement) with the three largest manufacturers of staplers (Ethicon®, Intuitive®, Medtronic®) in the US. After determining the appropriate statistical power (n=36 unique firings) and engineering a benchtop apparatus, we set out to determine staple line burst pressure with and without SLR. We chose the appropriate staple height load and remained consistent with or without SLR. Stapler firing was random. Each firing was on a consistent thickness synthetic bowel material. Data collected included SLR or no SLR, pressure at which a leak was identified, and location characteristics. Fluid was instilled until a leak was seen. Leaks were characterized as being through the staple line (TTSL) or through the staple (TTS), on the anvil or cartridge side, and at the proximal, middle, or distal location along the staple line. The procedure was video recorded for additional certainty of leak pressure.

Results:

Table 1 summarizes the mean burst pressure as well as percentage change with the use of SLR. There was a mean increase of burst pressure by 0.494 PSI for reinforced samples as compared to non-reinforced samples, regardless of stapler manufacturer. This resulted in a 109.5% increase in burst pressure with the use of SLR. Limitations: The results collected do not represent all commercially available SLR products.

Conclusion:

SLR was developed to strengthen the integrity of staple lines and therefore attempt to minimize bleeding and leaks. Employing buttressing material strengthens the staple line, as measured by burst pressure. By strengthening the staple line, SLR may reduce staple line failure. Our study utilizing GORE® SEAMGUARD® with three unique stapler manufactures demonstrates a significant increase in burst pressures with the use of SLR in a benchtop study.

Stapler Brand	Mean Non-reinforced Burst Pressure (PSI)	Mean Reinforced Burst Pressure (PSI)	Percent Change (%)
A	0.443	1.033	133.18
B	0.41	0.862	110.24
C	0.483	0.958	98.34

O-020

ANALYSIS OF WEIGHT AND BODY COMPOSITION VARIATIONS 6 MONTHS AFTER THE DIGESTIBLE INTRAGASTRIC BALLOON (IGB) ELIPSETM IN 105 PATIENTS. AN ECUADORIAN EXPERIENCE

Endoscopic and percutaneous interventional procedures

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Introduction:

Obesity in Ecuador affects 62.8% of the population. The IGB (ElipseTM) is an alternative for the reduction of weight in the population with this pathology. It is not only minimally invasive and temporary but also generates satiety and modifies gastric emptying.

Objectives:

To determine the weight loss obtained after 6 months of follow-up with the use of the IBG ElipseTM, by analyzing the body compositions of these patients using the InBody 270 device.

Methods:

105 patients (BMI of 31.51kg ± 3.52kg / m2) in the period of July 2020 to March 2021 participated in this study. Weight loss, body mass index (BMI), fat mass, lean mass, and visceral fat during IGB use at a 6-month follow-up were measured. All data was analyzed using SPSS 22.0 software.

Results:

105 patients (73 female and 33 male) with an age of 40.12 ± 12.02 years were analyzed. The percentage of weight lost at the first, third, and sixth months was 5.27 ± 5.21%, 9.24 ± 3.48%, and 11.82 ± 4.34% respectively, with a total weight reduction of 10.14 ± 3.78kg ($p < 0.05$). The mean BMI in the first, third, and sixth months was 29.82 ± 3.29kg/m2, 28.45 ± 2.92kg/m2, and 27.84 ± 2.77kg/m2, respectively. The body composition analysis indicated an initial visceral fat index of 15.16 ± 3.66kg and at the sixth month of 14.28 ± 3.86kg, while the fat mass corresponded to 33.85 ± 7.19kg and 29, 65 ± 7.32kg respectively.

Of the patients studied, 83.80% had mild complications, among which cramping pain and nausea were the most common. 4 (3.81%) patients did not tolerate the use of the balloon.

Conclusion:

The IGB offered support for a non-surgical weight loss with minimal complications and with a reduction in visceral fat mass that we consider could modify the metabolic status of the patient in the future. Long-term studies are required to determine the real benefit overweight and body composition.

O-021

ANASTOMOTIC GASTRO-JEJUNAL ULCER PERFORATION FOLLOWING ONE-ANASTOMOSIS-GASTRIC-BYPASS: CLINICAL PRESENTATION AND OPTIONS OF MANAGEMENT: CASE SERIES AND REVIEW OF LITERATURE

Young IFSO session

B. Abou Hussein, A. Khammas[2], O. Al Marzouqi[3].

[1]General Surgery Department, Rashid Hospital- Dubai Health Authority, Dubai, United Arab Emirates; [2]Rashid Hospital-Dubai Health Authority, Dubai, United Arab Emirates; [3]General Surgery Department, Rashid Hospital, Dubai, United Arab Emirates.

Background:

One-Anastomosis-Gastric-Bypass (OAGB) is an attractive bariatric procedure compared to the gold standard Roux-en-Y gastric bypass (RYGB) with one less anastomosis. Thousands of these procedures have now been performed by different surgeons who believe it could hold fewer complications than RYGB. However, postoperative complications including the formation of anastomotic ulcers and possible perforation remain a main concern following OAGB.

Methods:

We report three cases of perforation of an ulcer at the gastro-jejunal anastomosis following laparoscopic one-anastomosis-gastric-bypass. All cases needed surgical intervention after adequate resuscitation.

Results:

All patients were successfully managed using a minimally invasive approach with different techniques of repair (primary suturing of the perforation or resection and conversion to Roux-En-Y gastric bypass). All patients did well and were discharged in a stable condition after four to five days.

Conclusion:

Perforation of an anastomotic ulcer post-one-anastomosis-gastric-bypass is a serious condition and can be a life-threatening complication. A high index of suspicion helps to diagnose these cases in patients presenting with acute abdomen following OAGB. Adequate resuscitation and repair of the perforation are the main lines of treatment. Definitive surgical option depends on the general condition of the patient, timing of presentation, size, site of the perforation, and experience of the surgeon.

O-022

AORTIC INJURIES FOLLOWING STENTS IN BARIATRIC SURGERY: OUR EXPERIENCE.

Endoscopic and percutaneous interventional procedures

M. Nedelcu[1], T. Manos[2], S. Carandina[3], P. Noel[4], G. Donatelli[5].

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Introduction:

Due to the large number of Laparoscopic Sleeve Gastrectomy (LSG) performed over the last decade, the management of the leak has been increasingly reported. The role of covered Self Expandable Metal Stents (cSEMS) is still controversial for the treatment of the leak due to poor tolerance, and high risk of complications.

Objectives:

The aim of this study was to analyze the foregut wall perforation and aorta injuries, a very rare complication, but potentially fatal one, related to treatment of leak following LSG with cSEMS.

Methods:

An audit was conducted in two French tertiary bariatric endoscopic centers regarding aortic injuries after cSEMS use for leak. Initial procedure, leak characteristics, primary endoscopic treatment, and the outcome of endoscopic complication were retrieved and categorized from each eligible case.

Results:

A total of 5 patients were identified with foregut wall perforation and aorta injuries. All stents were deployed for staple line leak following Laparoscopic Sleeve Gastrectomy (LSG).
The recorded mortality for complication related to cSEMS with esophageal-aorta injuries was of 80%.

Conclusions:

cSEMS are potentially effective tools for the management of leaks after foregut bariatric surgery. The biggest challenge with this approach is stent migration and poor quality of life. Caution is warranted due to the risk of fatal complications such as foregut wall perforation and aortic injury.

O-023

ARE WE REFERRING ELIGIBLE OBESE PATIENTS FOR ROUX-EN-Y BYPASS SURGERY WHEN THEY PRESENT WITH GORD? A RETROSPECTIVE HOSPITAL-BASED COHORT STUDY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

In eligible people with obesity, Roux-en-Y gastric bypass (RYGB) has been shown to be highly successful in controlling both GORD symptoms and achieving significant weight loss maintenance, but such an option is underutilized in non-bariatric centers.

Objectives:

The aim of our study was to determine the proportion of patients with obesity who may have been eligible for referral for bariatric surgery but instead underwent fundoplication at a non-bariatric center.

Methods:

Using routinely collected hospital data, all patients who underwent fundoplication for GORD at a single academic teaching hospital over a 9-year period were identified and preoperative variables including Body Mass Index (BMI) and co-morbidities were collected.

Results:

A total of 321 patients underwent fundoplication between January 2011 and December 2020 of which 133 (41.4%) had available BMI data and were included in the analyses. BMI > 30kg/m2 was seen in 40 patients (30%) and BMI >35kg/m2 in 7 patients (5.3%). Of the 7 patients with BMI >35kg/m2, five (4%) were eligible, due to obesity-associated disease, for bariatric surgery referral.

Conclusions:

Given the well-established efficacy of RYGB not only for weight loss maintenance but also as an anti-reflux procedure, we recommend that this highly effective option be more available as a referral option.

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O-024

ASSESSMENT OF A FULLY-INTEGRATED MULTI-DISCIPLINARY WEIGHT MANAGEMENT CENTER AT A TERTIARY ACADEMIC MEDICAL CENTER: IMPACT ON CLINICAL VOLUME AND REFERRALS PATTERNS

Endoscopic and percutaneous interventional procedures

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Background/Aim:

A weight management and wellness center was created at our institution in 04/2021 with goal to provide a comprehensive approach and personalized patient care. This fully-integrated center included medically supervised, endoscopic, and surgical weight management working in tandem with a shared physical space and patient access system for patient care. The aim of this study was to measure the impact of this multi-disciplinary weight management center on outpatient clinical and procedural volume and referral practices within the group.

Methods:

This was a retrospective study evaluating outcomes before and after creation of a multi-disciplinary weight management center. Prior to introduction of this weight center, specialties operated independently with separate call centers and variable patient access systems. Specialist specific data (obesity medicine/endocrinology, gastroenterology, and surgery), referral patterns, and patient and procedural volume was reviewed from 10/2019-10/2021. Electronic medical records were reviewed based upon billing data and analyzed across the study period. Continuous data pre- and post-weight center were compared using a two sample t-test or chi-squared test. Year-over-year growth rate was also calculated as a performance indicator comparing outcomes in 10/2021 against the comparable 12-month period.

Results:

Data after the establishment of the weight management center is summarized by specialty in Table 1. Total clinic volume (all specialties) significantly increased (109%) at year two compared to pre-weight center (P<0.001). New patient clinic volume also increased for each specialty at year two – Table 1. Regarding referrals patterns, 15% of patients were seen by at least 2 divisions within the weight center with 1% of patients seen by all 3 divisions (all P>0.05 compared to pre-weight center). Comparing current clinic volume to the previous year, growth was seen for all divisions [Obesity Medicine/Endocrine: +233%; Gastroenterology: +51%; and Surgery: +7%]. While clinical volume year-over-year growth was the lowest for the surgical division, the procedural growth rate was the highest with a year-over year growth of +42%.

Conclusion:

Establishment of a comprehensive Center for Weight Management and Wellness increased outpatient visits and procedural volume for all divisions (endocrinology, gastroenterology, and surgery) with an increase in inter-disciplinary referrals. Surgical procedure volume saw the largest increase with most growth occurring among all divisions during year two. Future examination of patient-specific outcomes including weight management and wellness are needed to evaluate patient focused benefits of this multi-disciplinary approach.

Table 1.

Multi-Disciplinary Staff and Faculty	**Data**
Medical Weight Loss Providers (Obesity Medicine/Endocrinology)	
Total No. of Physicians	7
Total No. of Physician Assistants or Nurse Practitioners	3
Mean No. of Patients Per Physician	1409
% New Patients	25.89%
% Established Patients	74.11%
% of Patients Solely Seen by Endocrine	33%
Total Increase in Clinic Volume at Year 2	253%
Bariatric Endoscopy Providers (Gastroenterology)	
Physicians	3
Physician Assistants	3
Mean No. of Patients Per Physician	740
% New Patients	18.36%
% Established Patients	81.64%
% of Patients Solely Seen by Gastroenterology	41%
Total Increase in Clinic Volume at Year 2	158%
Total Increase in Procedure Volume at Year 2	17%
Bariatric Surgery Providers (Surgery)	
Physicians	7
Physician Assistants	4
Mean No. of Patients Per Physician	1040
% New Patients	22.03%
% Established Patients	77.97%
% of Patients Solely Seen by Surgery	11%
Total Increase in Clinic Volume at Year 2 (*P*<0.001)	22%
Total Increase in Procedure Volume at Year 2	72%

O-025

ASSESSMENT OF GLUCOSE HOMEOSTASIS IN PATIENTS UNDERGOING BARIATRIC SURGERY: A MULTIDISCIPLINARY CENTER EXPERIENCE

Type 2 diabetes and metabolic surgery

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Introduction:

Insulin resistance (IR) is considered a hallmark of metabolic syndrome, showing a strong association with obesity. We evaluated glucose metabolism and IR using the homeostasis model assessment-IR (HOMA1-IR) in patients undergoing bariatric surgery.

Objectives:

Describe and contrast rates of IR between bariatric procedures.

Methods:

A retrospective cohort study including patients with body mass index (BMI) ≥30 kg/m2 undergoing Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG) in a multidisciplinary bariatric center (2017-2020) was performed. Perioperative insulin, HbA1c, and fasting glucose levels were evaluated at different time points. HOMA1-IR was calculated and compared between groups.

Results:

Overall, 178 patients were identified: 112 (62.9%) underwent RYGB and 66 (37.1%) SG. Of these 132 (74.2%) were females. Median age at surgery was 40 years [IQR:31-50]. Median preoperative weight was 110.5 kg [IQR:97.6-122.0] for a median BMI of 42.5 [IQR:39.1–46.7] in the RYGB group vs 95.6 kg [IQR:89.8-103.7] for a median BMI of 36.2 [IQR: 34.7–38.2] in the SG group (p<0.001). Twelve months postoperatively 89.3% vs 95.4% reached a ≥50% excess body weight loss (EBWL) in a median of 4.5 months vs 5.5 in the RYGB and SG groups, respectively (p=0.17). Median preoperative HbA1c was 5.6% [IQR:5.3-6.0] with 13 (12.5%) ≥6.5% in RYGB vs 5.4% [IQR: 5.2-5.7] with 2 (3.2%) ≥6.5% in SG (p=0.02). Postoperatively, median HbA1c in RYGB was 5.1%, 5.2% and 5.1% at 6, 12 and 24 months, respectively. Median HbA1c was 5.2%, 5.3% and 5.0% at 6, 12 and 24 post-SG. Median preoperative HOMA1-IR was 5.7 [IQR:4.1-7.6] with 102 (91.1%) >2.5 in RYGB vs 4.2 [IQR: 2.8-6.7] with 53 (80.3%) >2.5 in SG group (p=0.01). Postoperatively, median HOMA1-IR in RYGB was 1.5, 1.3, and 1.5 at 6, 12, and 24 months, respectively. Median HOMA1-IR was 1.5, 1.8, and 1.9 at 6-, 12- and 24-months post-SG. HOMA1-IR failed to normalize (>2.5) at last follow-up in 12 (10.7%) RYGB vs 13 (19.7%) SG patients (p=0.12). At 12 months HOMA1-IR negatively correlated with EBWL in both RYGB (r=-0.40, p<0.01) and SG (r=-0.44, p=0.02), and HOMA1-IR positively correlated with fat mass loss in both RYGB (r=0.29, p=0.03) and SG (r=0.37, p=0.05).

Conclusion:

Both RYGB and SG showed favorable postoperative control of IR. Even with less favorable baseline glycemic profiles, RYGB displayed promising long-term normalization rates of IR. Evaluation of IR should be performed when choosing a bariatric procedure.

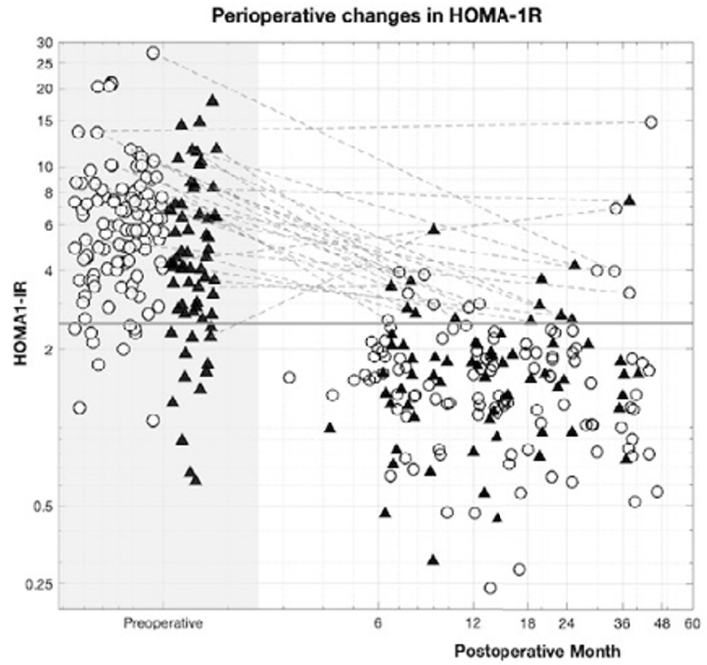

Figure 1. Pre- and post-operative HOMA1-IR values in RYGB(○) and SG (▲) patients. Postoperative values represent last recorded value for each patient at current follow-up, values that did not normalize (>2.5) after surgery are connected to their preoperative level by a dashed line. Axes are shown in logarithmic scale for visualization purposes.

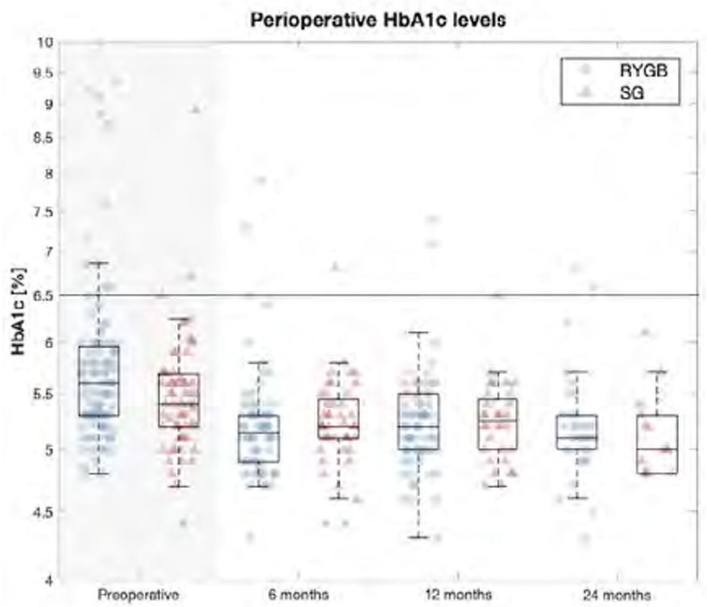

Figure 2. Pre- and post-operative HbA1c (%) leves in RYGB(○) and SG (▲) patients at different postoperative timepoints. Reference line at 6.5%.

O-026

ASSESSMENT OF LIVER VOLUME REDUCTION AFTER PREOPERATIVE ACUTE WEIGHT LOSS FOR BARIATRIC SURGERY: A COMPUTED TOMOGRAPHY-BASED ANALYSIS

Perioperative management

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Introduction:

Morbid obesity is considered to be one of the growing global health problems. The prevalence of morbid obesity in the USA has increase of 70% in the last 10 years. A similar trend of prevalence has also been observed among Asian populations, including Thai. Many resources have been utilized to treat patients who suffer from morbid obesity and its comorbidities. Bariatric surgery is the most effective way to achieve both weight reduction and resolution of comorbidities. Laparoscopic Roux-en-Y gastric bypass (LRYGB) is one of the most popular procedures, and the gold standard in Europe and the USA, due to its effectiveness in successful weight reduction and comorbidity resolution. However, one of the problem in performing LRYGB on super-obese patients whose body mass index (BMI) ≥ 50 kg/m2 , is an enlarged liver, which is commonly encountered. To reduce the problem, preoperative acute weight loss (AWL) was proposed. It's accomplished by restricting the calorie intake of patients to 800-1200 kcal/day for 2 weeks before surgery. Until now, there have been no studies reporting the results and efficacy of this method by objective assessment, in Asian population.

Objectives:

We aim to evaluate the efficacy of preoperative AWL to reduce the left lobe liver volume, using a non-contrasted CT scan as the objective assessment tool and the effect of preoperative AWL on other aspects, such as decreasing the severity of co-morbidities and abdominal wall thickness

Methods:

This prospective study included 12 super obese patients who underwent LRYGB at Chulalongkorn Minimally Invasive Surgery Unit from March to September 2019. Prior to the operation, all patients were admitted to hospital and undergone preoperative acute weight loss program. Non-contrast CT scans were obtained prior to and after the program.

The volume of left lobe liver was calculated by volumetric analysis based on CT scan. The abdominal wall thickness was measured from the same modality. The liver volume and abdominal wall thickness were compared between pre and post weight loss program.

Results:

6 male and 6 female patients were recruited, with a mean age of 35.8 years, a mean baseline weight of 154.8 kg and the mean baseline BMI was 55.4 kg/m2. All patients had DM and OSA; 10 patients had HT; 8 patients had DLP; and 7 patients had NAFLD. All patients completed the 2-week period of acute weight loss without any complications.

The mean left liver lobe volume reduced significantly by 24.6%. The mean body weight, BMI, SBP, FBS, and AWT also significantly reduced by 8.6%, 8.6%, 10.1%, 12.7% and 4.9%, respectively. All patients had an uneventful recovery and tolerated the oral diet well. There were neither intraoperative nor perioperative complications. There was no mortality in this study.

Conclusion:

The preoperative AWL is an effective method to reduce liver volume prior to LRYGB in super-obese patients. We demonstrated the effectiveness of volume reduction by using CT as an objective assessment. Due to this benefit of AWL, the LRYGB in super-obese patients can be done safely as a single operation. Preoperative AWL may potentially play a role to decrease the severity of patients' co-morbidities in the short period before surgery.

Table 1. Baseline characteristics of all participants.

Patients	Gender	Age (years)	Weight (kg.)	BMI (kg/m²)	Co-morbidities
1	Male	21	158.50	50	DM, OSA, NAFLD
2	Male	40	177	64.2	DM, HT, DLP, OSA, NAFLD
3	Female	47	135	52.7	DM, HT, DLP, OSA
4	Female	46	175	62	DM, HT, DLP, OSA, NAFLD
5	Female	31	142	50.3	DM, HT, DLP, OSA, NAFLD
6	Female	43	130.50	54.3	DM, HT, OSA
7	Male	25	173.1	52.8	DM, HT, DLP, OSA, NAFLD
8	Male	43	170.2	53.7	DM, HT, DLP, OSA
9	Female	51	137	51.5	DM, HT, DLP, OSA
10	Male	21	181	57.1	DM, HT, DLP, OSA, NAFLD
11	Female	37	124.4	59.2	DM, HT, OSA, NAFLD
12	Male	25	154	56.6	DM, OSA, NAFLD
Mean ± SD		35.8 ± 10.7	154.8 ± 20.4	55.4 ± 4.5	-

BMI = body mass index | **DM** = diabetes mellitus | **OSA** = obstructive sleep apnea
NAFLD = non-alcoholic fatty liver disease | **HT** = hypertension | **DLP** = dyslipidemia

Table 2. Comparison of data with mean and standard deviation at baseline and after 2 weeks of preoperative acute weight loss.

Parameters	Baseline Mean ± SD	Final Mean ± SD	Percentage of reduction Mean ± SD
Weight (kg.)	154.8 ± 20.3	141.2 ± 19.9	8.6 ± 6.5**
BMI (kg/m²)	55.3 ± 4.5	50.6 ± 6.3	8.6 ± 6.5**
Liver volume (ml.)	679.05 ± 215.03	515.42 ± 183.62	24.6 ± 9.6†
FBS (mg/dl)	119.2 ± 39.3	99.6 ± 17.2	12.7 ± 14.2*
SBP (mmHg)	136.6 ± 10	122.2 ± 5.3	10.1 ± 6.6†
AWT (mm.)	48.7 ± 6.8	46.3 ± 6.8	4.9 ± 2.9†

BMI = body mass index | **FBS** = fasting blood sugar | **SBP** = systolic blood pressure
AWT = abdominal wall thickness | * = p-value < 0.05 | ** = p-value ≤ 0.01
† = p-value ≤ 0.001

O-027

ASSOCIATION BETWEEN BARIATRIC SURGERY AND ALL-CAUSE MORTALITY IN PATIENTS WITH DIABETES: A POPULATION-BASED MATCHED COHORT STUDY IN A UNIVERSAL HEALTHCARE SYSTEM

Type 2 diabetes and metabolic surgery

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Background:

There is excellent randomized data demonstrating the profound effect of bariatric surgery on diabetes, but these studies are not powered to study mortality. Large, observational studies are needed to study mortality but often lack important clinical variables.

Objective:

We aimed to multiple, linked administrative databases to characterize the association between bariatric surgery and mortality in patients with diabetes.

Methods:

We matched (1:1) patients that underwent bariatric surgery in Ontario, Canada, to otherwise eligible patients from a provincial family medicine database based on age, sex, BMI, and diabetes duration. Analyses adjusted for multiple factors including patient socioeconomic status, comorbidities, smoking status, previous malignancy, cancer screening rates, healthcare utilization and psychiatric disease. Mortality was linked from provincial death records with >98% follow-up. Cox-proportional hazard models were used to assess the main outcome across strata. Cardiovascular death and non-fatal cardiovascular outcomes were also examined.

Results:

Overall, 6,446 patients (3,223 cases and 3,223 controls) were included with a median follow-up time of 5.6 years. Mortality rates were 2.6% in the surgery group and 7.4% in the controls (HR 0.43, 95%CI 0.34-0.56, ARR 4.8%, NNT 21, p<0.001) (Figure 1). This effect was consistent across all durations of diabetes with a 74% reduction in mortality for patients who have had diabetes 10-15 years (HR 0.26, 95%CI 0.15-0.47, p<0.001). Males had an absolute risk reduction of 7.3% (10.9% vs 3.6%, HR 0.39, 95%CI 0.27-0.58, p<0.001). There was a similar relative effect in women. Patients with diabetes of 10-15 years duration and >15 years duration had ARRs of 9.2% and 7.0% favoring surgery respectively, with NNTs of 11 and 14 respectively. Those >55 years of age had an 8.2% ARR (NNT 12) with a 60% reduction in mortality hazard (HR 0.40, 95%CI 0.30-0.54, p<0.001). Cardiovascular specific mortality decreased 75% (HR 0.25 95%CI 0.10-0.60, p=0.002) (Figure 2). A composite cardiovascular outcome demonstrated a decrease of 34% (HR 0.66 95%CI 0.50-0.86, p=0.002) in those undergoing surgery compared to controls.

Conclusion:

In this population-based matched cohort study, bariatric surgery demonstrated a consistent and profound effect on mortality across the diabetic duration, BMI, age, and sex. It also substantially decreased fatal and non-fatal cardiovascular events.

O-028

ASSOCIATION BETWEEN MICROSTRUCTURE OF INGESTIVE BEHAVIOR AND BODY WEIGHT LOSS IN PATIENTS ONE YEAR AFTER ROUX-EN-Y GASTRIC BYPASS

Nutrition, eating behaviors before and after bariatric surgery

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Background:

Roux-en-Y gastric bypass (RYGB) is an effective procedure in the treatment of obesity. However, mechanisms underlying its effectiveness remain unclear. Changes in ingestive behavior might contribute to postoperative weight loss. However, the predictive value of microstructure of ingestive behavior has not been widely investigated in this context. A drinkometer device was recently developed, allowing the analysis of microstructure of ingestive behavior of a liquid meal in humans. This study aimed to explore a potential correlation between ingestive behavior and total body weight loss (%TWL) in patients one year after RYGB by analyzing the microstructural parameters during liquid meals using an established drinkometer device.

Methods:

In a cross-sectional observational study, by means of the drinkometer, we measured the macro-and microstructural parameters of ingestive behavior of female bariatric patients (n=50) one year after RYGB.
A Pearson correlation analysis was performed to compare the macro- and microstructural parameters of ingestive behavior with the percentage of total weight loss (%TWL), percentage excess BMI loss (%EBMIL), and body mass index (BMI) one year after RYGB, as well as age. A Bonferroni adjusted $p < 0.003$ was considered significant for the correlation analysis. For all other statistical tests, a $p < 0.05$ was considered significant.

Results:

One year after surgery, a significant body weight loss was achieved in our study population (113.2 ± 13.8 kg vs 76.6 ± 13.4 kg; ***$p < 0.001$), with a mean %TWL of 32.2% (range: 13.5–47.4%). At the first test session, %EBMIL correlated with both suck duration ($r = 0.3$, *$p < 0.04$) and inter-suck intervals (ISIs, $r = –0.4$, *$p < 0.001$).

Conclusion:

This study contributes to the current knowledge about the ingestive behavior of bariatric patients one year after RYGB in terms of its association with the achieved weight loss. The use of the drinkometer device for the measurement of microstructure of ingestive behavior should be further expanded to different research questions and patient subgroups other than good responders. Its possible applications in clinical and behavioral research need to be included in the agenda of bariatric research.

O-029

ASSOCIATION BETWEEN PREOPERATIVE CARDIOVASCULAR RISK FACTORS AND CORONARY ARTERY CALCIUM SCORES IN PATIENTS UNDERGOING BARIATRIC SURGERY

Cardiovascular risk and bariatric surgery

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Introduction:

Obesity is associated with many factors that predispose to cardiovascular disease, including hypertension, dyslipidaemia, and diabetes. Bariatric surgery has been shown to decrease cardiovascular disease risk. Coronary artery calcium scoring (CACS) is a non-invasive imaging technique that quantifies intra-arterial calcium resulting from atherosclerosis. Elevated CACS has been shown to be correlated with cardiovascular disease progression and morbidity. Currently, it is not well established whether morbidly obese patients carry a coronary artery calcium burden or which factors are associated with a higher CACS in a bariatric surgical population pre-operatively.

Methods:

Patients with no prior cardiovascular disease undergoing bariatric surgery were evaluated preoperatively for CACS. Age, sex, smoking status, diabetes status, blood pressure, serum lipids, pre-and post-operative weight, and height were recorded. Ten-year risk of fatal cardiovascular disease was calculated using the European Society of Cardiology's SCORE tool. Patients were grouped into CACS=0 and CACS>0. Statistical analysis was performed using the Student's T-test for continuous variables and Chi Square test for categorical variables. P-values less than 0.05 were considered statistically significant.

Results:

Between June 2008 and June 2019, 154 patients were evaluated. The mean(sd) age was 44(11) years. Thirty-six (23%) were male. Forty-eight (31%) patients had subclinical coronary artery calcium. Risk factors that were associated with CACS>0 were age (mean 53(6) vs 40(10) years, p<0.001), male sex (37% vs 17%, p=0.005), diabetes (27% vs 12%, p=0.02), systolic blood pressure (141(17) mmHg vs 132(17) mmHg, p=0.004), and hyperlipidaemia requiring treatment (42% vs 7%, p<0.001). Higher cardiovascular risk scores were associated with CACS>0 (1.2(1.28) vs 0.29(0.73), p<0.001). The absence of CAC pre-operatively was associated with greater excess weight loss (79.71(28) % vs 68.88(22)%, p=0.04).

Discussion:

Our study demonstrates that CAC is associated with adverse cardiovascular risk factors in morbidly obese patients. Nearly one-third of pre-operative bariatric patients have subclinical coronary artery disease despite being asymptomatic. The absence of CAC may favor greater postoperative excess weight loss. Finally, coronary artery calcium scoring could potentially help stratify cardiovascular risk and operative outcomes in bariatric populations beyond traditional risk factors

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O-030

ASSOCIATION OF METABOLIC-BARIATRIC SURGERY WITH LONG-TERM SURVIVAL IN OBESE ADULTS WITH AND WITHOUT DIABETES: A PATIENT-LEVEL META-ANALYSIS OF 174,772 PATIENTS WITH 1·2 MILLION YEARS OF FOLLOW-UP

Type 2 diabetes and metabolic surgery

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Background:

Metabolic-bariatric surgery (MBS) delivers substantial weight loss and may induce remission or improvement of obesity-related risks and complications. However, more robust estimates of its effect on long-term mortality and life expectancy—especially stratified by pre-existing diabetes status—are needed to guide policy and facilitate patient counseling.

Objectives:

We did a prespecified one-stage meta-analysis using patient-level survival data reconstructed from prospective controlled trials and high-quality matched cohort studies.

Methods:

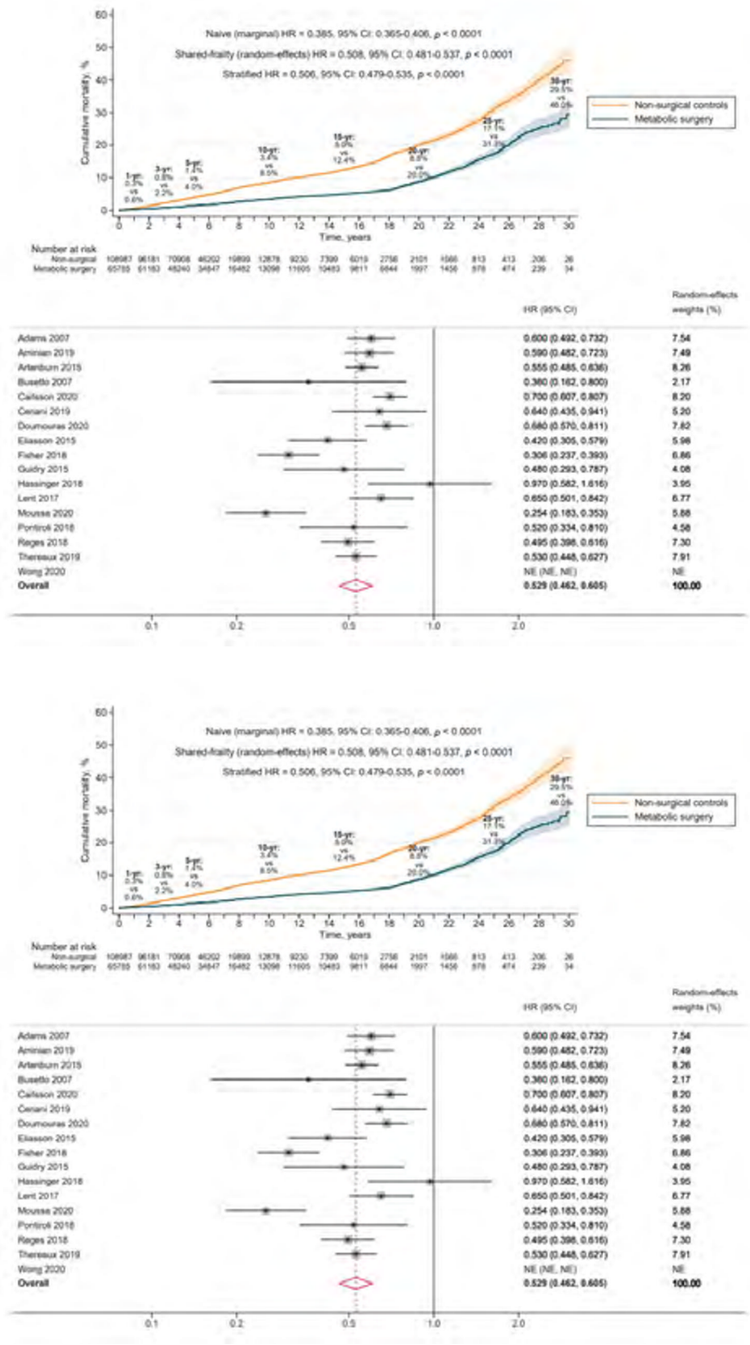
Shared-frailty (i.e., random-effects) and stratified Cox models were fitted to compare all-cause mortality of obese adults who underwent MBS compared to matched controls who received usual care. We also computed numbers needed to treat (NNT), and extrapolated life expectancy using Gompertz proportional-hazards modeling.

Results:

Among 1,428 articles identified, sixteen matched cohort studies and one prospective controlled trial were included in the analysis. 7,712 deaths occurred during 1·2 million patient-years. In the overall population consisting of 174,772 participants, MBS was associated with a reduction in hazard rate of death of 49·2% (95% CI:46·3%–51·9%; P<0·0001) and median life expectancy was 6·1 years longer compared to usual care. In subgroup analyses, both diabetic (HR=0·409, 95% CI:0·370–0·453, P<0·0001) and non-diabetic (HR=0·704, 95% CI:0·588–0·843, P<0·0001) obese individuals who underwent MBS had lower rates of all-cause mortality, but the treatment effect is considerably greater for diabetic compared to non-diabetic subjects (between-subgroup I2=95·7%, P<0·001). Median life expectancy was 9·3 years longer for severely obese patients with diabetes in the surgery group than the non-surgical group, while the life expectancy gain was 5·1 years for non-diabetic patients. The NNTs to prevent one additional death over a 10-year horizon were 8·4 (95% CI:7·8–9·1) and 29·8 (95% CI:21·2–56·8) for diabetic and non-diabetic obese adults respectively. Treatment effects did not appear to differ between gastric bypass, banding, and sleeve gastrectomy (I2=3·4%, P=0·355).

Conclusions:

Among obese adults, MBS is associated with substantially lower all-cause mortality rates and longer life expectancy than conventional obesity management. Survival benefits are much more pronounced for people with pre-existing diabetes than those without.



O-031

ATTRITION RATES AMONG OBESE AFRICAN AMERICAN PATIENTS SEEKING BARIATRIC SURGERY: A HIGH VOLUME SINGLE CENTER ANALYSIS

Behavioral, psycho-social, and environmental predictors of bariatric surgery outcomes

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Background:

African American (AA) individuals represent the second largest minority in the United States. Although AA are disproportionately affected by obesity, previous studies have shown that only a few proportion of them undergo bariatric surgery.

Objectives:

Determine causes of attrition among AA patients seeking bariatric surgery.

Methods:

Data were collected retrospectively from all AA patients referred for bariatric surgery at our institution from January 1st to December 31st 2019. Demographics, socio-economic variables, and type of consultation (in person vs. telehealth) were compared between those undergoing surgery and those who did not receive surgery. A multivariate logistic regression model was performed to identify variables independently associated with attrition.

Results:

A total of 890 patients were evaluated in the bariatric surgery clinic; 522 (65.9%) were AA, and from these, 468 patients were referred for bariatric surgery. Only 191 (40.8%) underwent surgery (59.2% attrition rate). Patients undergoing surgery were younger (mean age 43.6 vs. 46.6 years, p=0.005), less likely to be male (9.4% vs. 18.1%, p=0.009) and had lower prevalence of obesity-related comorbidities (69.1% vs. 79.4%, p=0.01), as compared to those who did not achieve surgery. Public insurance was more common in patients who did not receive surgery (62.8% vs. 48.7%, p=0.002). The use of telehealth visits was more frequent in patients undergoing surgery (55.5% vs. 24.9%, p<0.0001) (Table 1). The multivariable logistic regression analysis showed that male patients (OR 0.53 95% CI 0.28-0.98) and those with public insurance (OR 0.56, 95% CI 0.37 – 0.83) were significantly less likely to undergo surgery. The use of telehealth was strongly associated with receiving surgery (OR 3.53, 95% CI 2.36 - 5.29) (Table 2).

Conclusion:

Targeted strategies in AA male patients and/or with public insurance seeking bariatric surgery are needed to reduce attrition rates. Further embracement of telehealth might also help improving adherence to bariatric surgery programs.

Table 1. Characteristics of African American patients seeking bariatric surgery showing differences among those who underwent bariatric surgery and those who did not receive surgery.

	Surgery (n=191)	Attrition (n=277)	p
BMI > 50 kg/m^2	77 (40.3%)	119 (42.9%)	0.56
Age > 50 years	61 (31.9%)	116 (41.9%)	**0.02**
Male gender	18 (9.4%)	50 (18.1%)	**0.009**
Married	36 (18.8%)	48 (17.3%)	0.67
Obesity-related comorbidities	132 (69.1%)	220 (79.4%)	**0.01**
Public Insurance	93 (48.7%)	174 (62.8%)	**0.002**
High School Graduation > 80% [a]	70 (36.6%)	113 (40.8%)	0.36
Travel distance to hospital > 10 miles [b]	107 (56.0%)	164 (59.2%)	0.49
Household Income > $50.000 / year [c]	44 (23.0%)	83 (29.9%)	0.09
Telehealth Visits	106 (55.5%)	69 (24.9%)	**<0.0001**

[a] Proportion of adults in patients' zip code who have completed high school using the Zip Code Atlas.
[b] Travel distance from patients' zip code to University of Illinois at Chicago.
[c] Based on median residential household income of each patients' zip code using the Zip Code Atlas.
P values < 0.05 are denoted in bold.

Table 2. Logistic regression analysis of variables associated with receiving bariatric surgery among African American patients.

	OR	95% CI	p
Age > 50 years	0.74	0.48 – 1.14	0.18
Male gender	0.53	0.28 – 0.98	**0.04**
Obesity-related comorbidities	0.74	0.46 – 1.19	0.22
Public Insurance	0.56	0.37 – 0.83	**0.004**
Telehealth Visits	3.53	2.36 – 5.29	**<0.0001**

[a] Based on median residential household income of each patients' zip code using the Zip Code Atlas.
Abbreviations: OR: Odds ratio; CI: Confidence interval
P values < 0.05 are denoted in bold.

O-032

BANDED SLEEVE GASTRECTOMY VS NON-BANDED SLEEVE GASTRECTOMY FOR TREATMENT OF MORBID OBESITY: A META-ANALYSIS

Banded procedures

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Background/Introduction:

Laparoscopic sleeve gastrectomy or non-banded sleeve gastrectomy (NBSG) is nowadays the most performed bariatric procedure worldwide. The procedure is known for its safety and effectiveness, shorter operative time, feasibility, and easiness of revision and conversion to a malabsorptive surgery. However, inadequate weight loss or weight regain is still a long-term disadvantage for some patients.

Objectives:

We aim to compare BSG (Banded sleeve gastrectomy) to NBSG regarding weight loss (BMI and EWL).

Methods:

We searched Cochrane, Medline, Pubmed, Embase, scopus, and Web of Science for RCTs and observational studies. We included Full-text studies comparing BSG and non-banded SG. We excluded abstracts and studies comparing BSG to other bariatric procedures. Authors screened titles and abstracts independently, assessed full text eligibility, and extracted information from eligible trials. Any dispute was settled by discussion between authors.

Results:

Out of 3935 studies, 8 studies (6 cohort studies, 1RCT, and 1 Pilot randomized study) were eligible for our study. A total of 805 patients were analyzed, with a follow-up period ranging from 1 to 5 years. BSG significantly lowers BMI more than NBSG (mean difference, 3.60, 95%CI: 0.29, 6.91, p=0.03). Excess Weight Loss (EWL %) favors BSG with mean difference 6.33 % (95%CI: 5.37%, 7.29%) but showed 98% heterogeneity. We conducted a subgroup analysis of EWL by year of follow-up at 1, 3, 5 years. BSG significantly lowers EWL at 1, 3, 5 years of follow-up, 1.19% (95% CI 0.08-2.29),16.9% (95% CI 14.5-19.3), and 30.04% (95% CI 26.8-33.18), respectively. There is no significant difference between BSG and NBSG regarding reflux (OR: 0.69; 95%CI 0.37-1.29).

Conclusion:

Our study suggests that BSG significantly lowers BMI and EWL compared to NBSG, but no significant difference between two procedures regarding reflux. No sufficient data about resolution of co morbidities difference between two operations. Large RCTs trials are needed.

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O-033

BARIATRIC ADVANCED LAPAROSCOPIC SIMULATION PROGRAM FOR OBESITY SURGERY: A 5-YEAR EXPERIENCE TRAINING SURGEONS

Bariatric training

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Background:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) is an effective obesity treatment due to its safety and weight loss results, but it has a prolonged learning curve estimating 50-150 cases to achieve proficiency. Since simulation has shown optimization of learning curves in controlled scenarios and transference of skills to the operation room, a simulation training program for LRYGB was developed.

Objectives:

Describe the 5-year experience of performing a bariatric advanced laparoscopic simulated training program.

Methods:

A training program using an ex-vivo animal model was developed to practice manual gastrojejunal anastomosis (GJA), stapled GJA, and jejuno-jejunostomy (JJO) in 10, 3, and 4 sessions, respectively. During the first and last session, trainees' manual GJA was assessed using a modified global Objective Structured Assessment of Technical Skill (OSATS) scale (max 25 pts), specific rating scale (SRS; max 20 pts), performance time, permeability and leakage. Throughout the course, the trainees recorded their time to complete each exercise. Data analysis was performed using a paired two-tailed Wilcoxon signed-rank and McNemar tests, as appropriate. Results are presented as median (Q1-Q3).

Results:

Through 5-years of the program, 60 trainees completed the training. Trainees significantly decreased their median performance time for manual GJA and JJO; the permeability rate increased and the leakage rate decreased in pre- vs post-training assessment (Table 1). Promising results were also observed in assessment scales, showing an increase in both OSATS and SRS [15 (15-18) vs 25 (24-25), p-value <0.001 and 13 (12-14) vs 19 (19-20), p-value <0.001 respectively].

Conclusion:

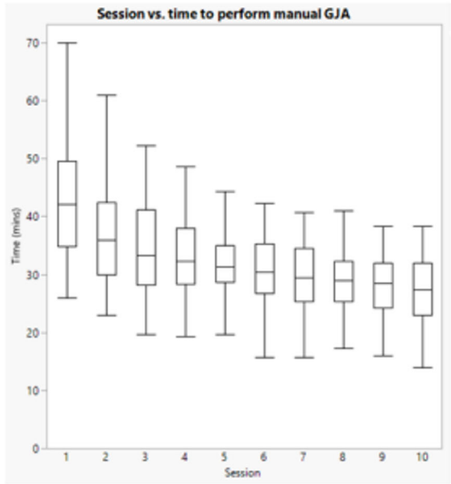
This mastery learning course showed effectiveness in improving laparoscopic skills for GJA-JJO performance in a simulated scenario. This new training program could reduce the clinical learning curve, although further studies are needed to assess the transfer of skills to the operating room.

Table 1: Trainees' results obtained from the assessment of manual GJA.

	PRE-ASSESSMENT	POST-ASSESSMENT	P-VALUE
TIME IN MINUTES	50(44-58)	27(21-32)	**<0.001**
PERMEABILITY (%)	88	100	0.063
FILTRATION (%)	26	0	**<0.001**
GRS	15(15-18)	25(24-25)	**<0.001**
SRS	13(12-14)	19(19-20)	**<0.001**

Results are expressed as median (Q1-Q3). GJA: Gastroenteroanastomosis.
GRS: General Rating Scale. SRS: Specific rating scale. JJO: jejuno-jejunostomy.

Figure 1: Learning curves expressed as time(min) to complete the exercise per training session.



O-034

BARIATRIC ENDOSCOPY THERAPY: ALL YOU NEED TO KNOW FOR BEST OUTCOMES

Endoscopic and Percutaneous Interventional Procedures

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Introduction:

Obesity is a multifactorial, chronic and relapsing disease with increased morbidity and mortality. The obese prevalence and health care costs related have dramatically risen in recent years. Bariatric endoscopy is a minimally invasive, safe and effective technique with lower peri and post-operative complications rate compared to bariatric surgery. Endoscopic Sleeve Gastroplasty (ESG) reduce the gastric volume and modify the gastric motility by placing full-thickness sutures along the greater curvature of the stomach. However, as with all newly acquired techniques, to achieve the best outcomes a quality endoscopic training and a well-defined pathway are needed to succeed.

Objectives:

The aim is to analyze and describes the current bariatric endoscopy therapy to ensure the best outcomes in patients with obesity.

Methods:

Literature search was performed on PubMed and Cochrane Library. Retrieved papers were firstly selected based on title and abstracts. Only studies in humans were selected. Then, selected papers were evaluated in full text.

Results:

There are key phases to ensure the best endoscopic therapy in obese patients. Fundamental is the selection of the patient in the pre-operative phase by the multidisciplinary team (MDT) composed of gastroenterologists, surgeons, endocrinologists, nutritionists, psychologists/psychiatrists and dedicated nurses. Intravenous administration of fosaprepitant , an antiemetics drug, and pain relief medicine during the endoscopic procedure lead to early mobilization and rapid recovery from surgery. Oral liquid re-feeding after 24 hours and the delivery of specific dietary plan are just some of the other measures taken for a good bariatric endoscopy result. Finally the long-term follow up allows the patient to feel motivated and supported in losing body weight and maintaining the set goal.

Conclusion:

Numerous studies in the literature already showed interesting results about the role of ESG in patient with obesity. This review analyze how to achieve the best endoscopic outcomes in obese patients underwent endoscopic sleeve gastroplasty.

O-035

BARIATRIC METABOLIC SURGERY: AN EFFECTIVE TREATMENT OF TYPE 2 DIABETES

Type 2 diabetes and metabolic surgery

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Background:

Bariatric metabolic surgery is evolving as an option for treatment of type 2 diabetes (T2DM) in patients with obesity and T2DM, warranting more studies on the efficacy of bariatric metabolic surgery on T2DM.

Objective:

To determine T2DM remission in patients with obesity and T2DM with up to two years follow up after bariatric metabolic surgery.

Methods:

A retrospective review of prospectively maintained data was undertaken to identify patients who had T2DM and underwent bariatric surgery at a single center in 2016. Data collected included age, gender, body mass index (BMI), fasting plasma glucose (FPG), hemoglobin A1c (A1c), blood pressure, (HTN) sleep apnea (OSA) initial weight and the weight at intervals of 6, 12, and 24 months. Data on the treatment of T2DM before the surgery was also collected. The criteria of the American Diabetes Association (ADA) were used for the definition of T2DM remission. Only the data on patients in this study who had more than 12 months follow-up information was analyzed.

Results:

280 patients with T2DM were identified. 191 patients had more than 12 months follow-up information. Mean age and BMI were 49.58 ± 10.64 years and 44.03 ± 7.86 kg/m2 respectively. There were 29 patients on insulin, 21 (10.9%) on insulin only and 8 (4.2%) on insulin and OHA. One hundred and forty-six patients (76.4%) were on OHA, 134 on a single OHA and 12 on more than one OHA. Twenty-six patients (13.6%) were newly diagnosed with T2DM when they came in for bariatric metabolic surgery. One hundred and fifty-six patients (81.7%) achieved complete remission. 14 (7.3%) of these patients used to be on insulin with or without OHA and 142 (74.3%) were patients either on OHA or no OHA. There were 12 (6.4%) patients in partial remission. There was improvement in 23 (12.04%). Eight patients were on insulin but at lower doses and 15 were on a single OHA. The average percentage of total weight loss (%TWL) at 6, 12 and 24 months was 29.7%, 33.9% and 35.6% respectively. Patients with shorter duration of T2DM had higher remission rates as compared to patients with longer duration. (r=-0.874, p=0.001). There was also significant resolution of hypertension (HTN) (81.8%) and OSA (82.3%) after bariatric metabolic surgery.

Conclusion:

This study collaborates reports that there is significant remission of T2DM after bariatric metabolic surgery in patients with obesity and T2DM. There is need for prospective, multi-centre, and long term studies on bariatric metabolic surgery to treat patients with obesity and T2DM.

Key words: Bariatric metabolic surgery, Type 2 diabetes (T2DM), Diabetic remission, Hemoglobin A1c (A1c), Percentage of total weight loss (%TWL), Insulin; Oral hypoglycaemic agent (OHA)

O-036

BARIATRIC OPERATIONS AND TYPE 2 DIABETES RESOLUTION: 10-YEAR COMPARATIVE OUTCOMES FROM A SINGLE-CENTRE AUDIT

Type 2 diabetes and metabolic surgery

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Introduction:

One of the most important comorbidities of the bariatric surgery population is the presence of Type 2 Diabetes Mellitus (T2DM). Current literature suggests that irrespective of the type of operation, the surgical management of obesity is effective in resolving T2DM in individuals. Long-term comparative results of T2DM resolution between different types of bariatric surgery are however still in short supply.

Objectives:

Our single-institution, retrospective study aims to compare the outcomes of T2DM resolution in patients having undergone Roux-en-Y Gastric Bypass (RYGB), RYGB with gastric fundus excision, Long-Limb Biliopancreatic Diversion (BPD-LL), and Sleeve Gastrectomy (SG), at 10 years after surgery.

Methods:

A total of 490 patients were included in our study. 322 patients underwent GBRY, 34 underwent GBRY with gastric fundus excision, 58 underwent BPD-LL, 47 underwent SG and 29 underwent SG as a revision of RYGB. Patient groups did not differ preoperatively in the presence of T2DM.

Results:

After 10 years of follow-up, we did not detect any statistically significant differences in T2DM resolution percentages between the different operations (p=0.096). Multivariate analysis did not show Type of Operation, Preoperative BMI or Preoperative Diabetes Status to independently influence T2DM resolution outcomes.

Conclusions:

Long-term effects of different bariatric operations on obesity-associated T2DM are comparable between different types of bariatric surgery.

Table 1: Diabetes at 10 years of followup

Presence of Diabetes at Followup		Type of Operation (final)					
		GBRY	LAP – RYGB – LL with gastric fundus extraction	BPD - LL	LAP – Sleeve Gastrectomy	LAP SG – Redo – LAP RYGB	Total
True	Observed	12	4	2	0	2	20
	% within column	3.7 %	11.8 %	3.4 %	0.0 %	6.9 %	4.1 %
False	Observed	310	30	56	47	27	470
	% within column	96.3 %	88.2 %	96.6 %	100.0 %	93.1 %	95.9 %
Total	Observed	322	34	58	47	29	490
	% within column	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Table 2: Model Coefficients - Presence of Diabetes at Followup

Predictor	Estimate	SE	Z	p
Intercept	10.30632	2.95512	3.48761	< .001
Preoperative Diabetes:				
False – True	0.92471	0.72392	1.27736	0.201
Preop Weight	-8.18e−5	0.00973	-0.00841	0.993

Table 2: Model Coefficients - Presence of Diabetes at Followup

Predictor	Estimate	SE	Z	p
Preop BMI	0.00822	0.03829	0.21473	0.830
Type of Operation (final):				
LAP - RYGBP - LL με εκτομή γαστρικού θόλου – BPD with GBRY	-1.67779	0.82273	-2.03929	0.041
BPD - LL – BPD with GBRY	0.96464	1.09948	0.87737	0.380
LAP - Επιμήκης Γαστρεκτομή – BPD with GBRY	16.42491	1498.57245	0.01096	0.991
Redo - LAP - RYGBP - LL (προηγηθέν LAP - SG) – BPD with GBRY	0.27264	1.10229	0.24734	0.805
Age at appointment	-0.15384	0.03604	-4.26909	< .001

Note. Estimates represent the log odds of "Presence of Diabetes at Follow Up = False" vs. "Presence of Diabetes at Follow Up = True"

O-037

BARIATRIC SURGERY A NEW RAY OF HOPE IN PULMONARY ARTERIAL HYPERTENSION

Cardiovascular risk and bariatric surgery

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Bariatric Surgery A new ray of hope in Pulmonary arterial hypertension

Introduction:

Data regarding outcomes of bariatric surgery in patients with pulmonary hypertension is limited
Some case reports suggested bariatric surgery improves pulmonary hypertension

Objective:

A 70 years Lady of height 150cm weight 116kgs BMI 45 gives history of gradual weight gain for the past 20 years initially tried exercise and diet control but was unsuccessful. She was having associated symptoms of easy fatiguability, dyspnoea on exertion, pedal edema unable to do daily activities and in a bed bound state
Patient also gives history of OSA, Hypertension and severe pulmonary hypertension for which she was on medication

Methods:

Considering above factors of age and pulmonary hypertension evaluated with cardiology consultation and 2D echo revealed Dilated RA/RV. Moderately severe TR/ Severe PAH (RVSP: 85 mm hg) Concentric LVH. No LV RWMA EF 60 %. Grade I diastolic dysfunctionUGIE revealed Lax GE junction with non-erosive gastritis. Challenging decision of surgery was taken and preoperatively optimized with Bosentan other cardiac support medication and diuretics

CPAP support was given. Very low-calorie diet was given before taking for surgery with all essential elements and albumin support. Patient was taken up for surgery after 2 weeks of optimization with continuing pulmonology and cardiology advices. Mini gastric bypass with Gastrojejunostomy performed at 120cm from DJ flexure performed. With good post op ICU care and Physiotherapy and dietary advises she was discharged after 6 days post procedure in a vitally stable condition

Reviews at 2weeks later, 1 month later and 2 months later patient showed dramatic improvement in general condition. Patient was able to move and do small activities and lost about 20 kgs in 40 days post procedure. Her RVSP on 1-month follow-up improved to 40mm hg

Results:

It gives a new life to morbidly obese patients with associated co morbidities. Here improvement in outcomes such as use of vasodilatory and diuretic medications, need for home oxygen therapy and mean pulmonary arterial pressures, excess body weight loss were reassessed all were improved in present case

Conclusion:

Bariatric surgery can be performed without prohibitive complication rates in patients with PH. In our experience they achieved significant weight loss and improvement in RVSP.

O-038

BARIATRIC SURGERY AS A BRIDGE TO RENAL TRANSPLANTATION IN PATIENTS WITH END-STAGE RENAL DISEASE

Impact of bariatric surgery on other surgical outcomes- transplant ortho and hernia

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Background:

Obesity is a relative contraindication to organ transplantation. Preliminary reports suggest that bariatric surgery may be used as a bridge to transplantation in patients who are not eligible for transplantation because of morbid obesity.

Methods:

We reviewed the outcomes of 7 consecutive patients on hemodialysis for end-stage renal disease (ESRD) who underwent bariatric surgery from 2017 to 2019. Demographics, comorbidities, weight loss, as well as transplant status were reported.

Results:

Two men and five women aged 34–60 years (47.8 ±7 years) underwent laparoscopic Roux-en-Y gastric bypass (LRYGB, n = 1), laparoscopic sleeve gastrectomy (LSG, n = 5) or laparoscopic sleeve gastrectomy converted to one anastomosis gastric bypass (OAGB, n= 1) after failure to lose sufficient weight. Mean preoperative BMI was 48.8 ± 5.3 kg/m2. Follow-up to date was 29– 50 months; mean postoperative BMI was 29.3 ±9 kg/m2; %EBWL was 63.4 ±26 %. Three patients underwent renal transplantation between 7- 23 months after bariatric surgery. One of these patients died 4 months after bariatric surgery due to consequence of her comorbidities and repeated sepsis at hemodialysis. Another patient who was on the waiting list of transplants deceased after 45 months because of COVID 19 infection. Two patients are still waiting to be transplanted. Diabetes mellitus resolved in 3 (60%) patients (mean pre op HgA1c 7.7 ±0.96%, mean post op HgA1c 5.55 ±0.4%) while improvement occurred in two patients. Arterial hypertension has resolved in 2 (33.3%) patients (mean pre op systolic pressure 147.2 ± 4.8 mmHg, mean post op systolic pressure 129.2 ± 6.2 mmHg) and improved in the remaining 5 patients.

Conclusion

Bariatric surgery is effective in patients with ESRD and improves access to renal transplantation. Bariatric surgery offers a safe approach to weight loss and improvement in comorbidities prior to renal transplant.

O-039

BARIATRIC SURGERY AS SECONDARY PREVENTION FOR CARDIOVASCULAR DISEASE: A POPULATION-BASED MATCHED COHORT STUDY IN A UNIVERSAL HEALTHCARE SYSTEM

Cardiovascular risk and bariatric surgery

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Background:

There is a paucity of research on how bariatric surgery affects those with prior cardiac disease. Studies in other populations suggest that bariatric surgery improves cardiac outcomes.

Objectives:

Accordingly, we used multiple, linked administrative databases to characterize the association between bariatric surgery and major adverse cardiovascular events (MACE) in patients with prior cardiac disease.

Methods:

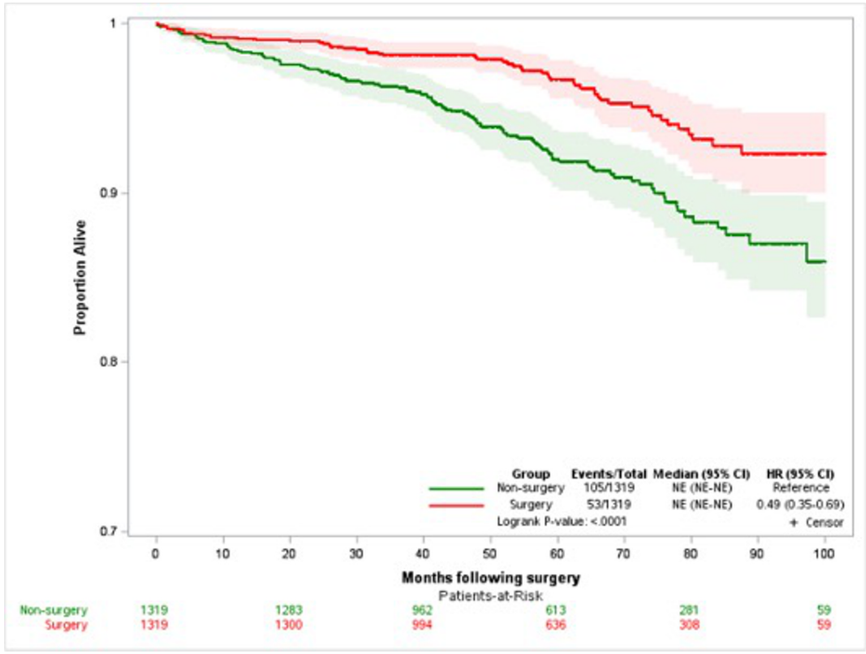
We matched (1:1) patients that underwent bariatric surgery in Ontario, Canada, to otherwise eligible patients from a provincial family medicine database based on age, sex, CHF status, eligibility date, and a propensity score of 20 relevant clinical variables. The primary outcome was the incidence of extended MACE (first occurrence of all-cause mortality, myocardial infarction (MI), coronary revascularization, cerebrovascular events, and heart failure hospitalization). Cox-proportional hazard models were used to assess the main outcome across strata. Cardiovascular death and non-fatal cardiovascular outcomes were also examined.

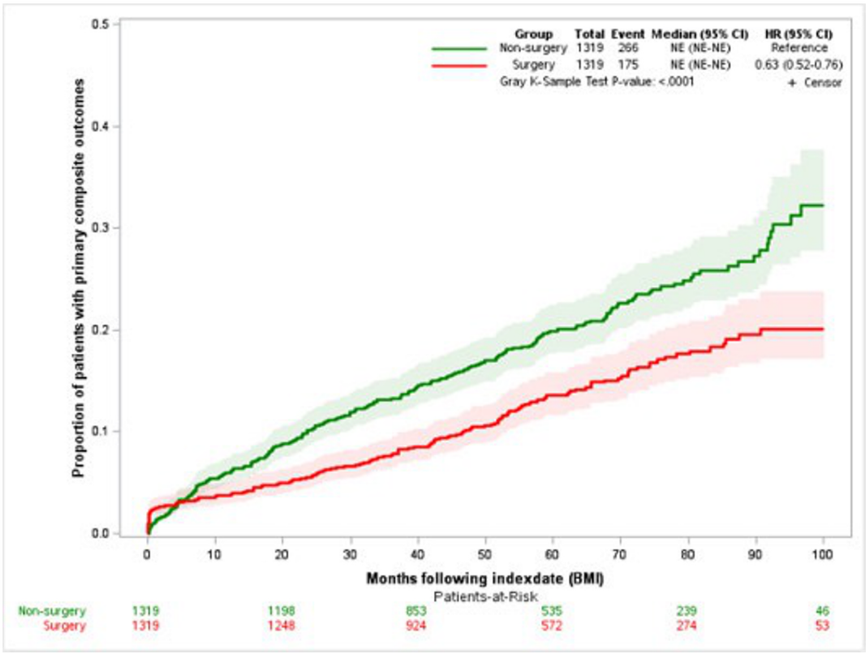
Results:

Overall, 2,638 patients (1,319 cases and 1,319 controls) were included with a median follow-up time of 4.9 years. The primary outcome occurred in 11.5% (151/1,319) of the surgery group and 19.6% (259/1,319) of the controls (adjusted hazard ratio [HR] 0.58; 95% confidence interval [CI], 0.48-0.71, P<0.001). Mortality rates were 4.0% in the surgery group and 8.0% in the controls (HR 0.49, 95%CI 0.35-0.69, p<0.001) (Figure 1). For those with heart failure, MACE rates were 36.5% in the controls and 17.2% in the surgery group respectively (HR 0.44, 95%CI 0.31-0.62, p<0.001). A secondary MACE composite cardiovascular outcome including myocardial infarction, ischemic stroke, and all-cause mortality demonstrated a decrease of 38% (HR 0.62 95%CI 0.49-0.78, p<0.001) in those undergoing surgery compared to controls.

Conclusion:

In this a population-based matched cohort study, bariatric surgery demonstrated a consistent and profound effect on MACE for patients with previous heart disease. This study lends itself to further study as a treatment for secondary prevention in heart disease.





O-040

BARIATRIC SURGERY DURING COVID-19 PANDEMIC FROM PATIENTS' POINT OF VIEW – THE RESULTS OF NATIONAL SURVEY

Integrated health

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Introduction:

The aim of the study was to investigate the impact of COVID-19 pandemic on bariatric care from patients' point of view. The COVID-19 pandemic has perturbed the functioning of healthcare systems around the world and led to changes in the elective surgical care, with bariatric procedures being postponed until the end of pandemic. There is no data in the literature about the effect of new epidemiological situation on the bariatric patients.

Objectives:

The aim of the study was to investigate the impact of COVID-19 pandemic on bariatric care from patients' point of view.

Methods:

The study was designed as an online survey containing multiple open questions about bariatric care during COVID-19 pandemic. The survey was conducted among pre- and post-operative bariatric patients.

Results:

Out of 800 respondents, 74.53% felt anxiety about their health in regard to present epidemiologic state. 72.25% were aware of the fact that obesity was an important risk factor that could impair the course of COVID-19 disease. Almost 30% respondents admitted having put on weight, significantly more in the group of pre-operative patients (43.8% vs 22.69%; $p<0.001$). Only 20.92% of patients had possibility to continuing direct bariatric care, 67.3% of patients had an opportunity of remote contact with a bariatric specialist, including online consultations, tele-consultations, and social media meetings.

Conclusions:

Limited access to medical care and quarantine lockdown may result in a deterioration of long-time operation outcomes and lower weight loss. Patients should be encouraged to profit from online consultations with specialists and telemedicine to reduce the negative effects of pandemic on their health.

O-041

BARIATRIC SURGERY FOR METABOLIC UNHEALTHY OBESITY (MUO) DURING THE COVID ERA: SHORT TERM RESULTS OF A HIGH-VOLUME CENTER

Basic science and research in bariatric surgery

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Background.

MHO (Metabolic Healthy Obesity) is defined by the presence of obesity and the absence of any metabolic disorder and cardiovascular disease. Conversely, Metabolic Unhealthy Obesity (MUO) is characterized by the presence of high liver fat content, lower cardiorespiratory fitness, insulin resistance, higher markers of inflammation, and adipose tissue dysfunction. In addition, MUO is a significant risk factor for mortality in the current pandemic of COVID-19. Bariatric surgery (BS) has been shown to be equally effective in MHO compared to MUO patients concerning cardiometabolic outcomes. Little is known about the results of BS in MUO in the COVID era.

Objectives.

The aim of this study was to evaluate the effectiveness of laparoscopic bariatric surgery on MUO patients during the pandemic of COVID-19.

Methods.

Between March 2020 to January 2021, all MUO patients submitted to laparoscopic bariatric surgery (Sleeve Gastrectomy, OAGB and RYGB) were enrolled according to the ATP III Guidelines, with a minimum follow-up of three months. All patients were screened for Coronavirus infection before surgery. All pre- and post-operative data were collected. The percentage of patients with pre-operative type 2 diabetes was 16.3% for RYGB, 15,3% for OAGB and 5.4% for SG ($p = 0.025$).

Results.

210 MUO patients underwent laparoscopic bariatric surgery in the study period. Of these, 77 RYGB and 85 SG, and 48 OAGB were performed in our obesity referral center. Pre-operative coronavirus positive swabs were detected in 8 patients (3.8%) who were delayed for surgery. Post-operative major complications occurred in 4 patients (1.9%) with zero mortality. After six months mean follow-up, an excess weight loss (EWL) of 76.2 ± 21.4%, 71.1± 23.1% and of 66.4 ± 19.1% ($p = 0.031$) was observed in the RYGB, OAGB and SG groups, respectively. The rate of co-morbidities resolution was very similar for all type of surgeries ($p = 0.871$). Fasting blood glucose levels followed the same trend with mean values reaching 98.7 ± 32.5 mg/dl in the RYGB group, 94.7 ± 33.5 mg/dl in the OAGB and 96.6 ± 18.9 mg/dl in the group undergoing SG ($p = 0.021$). Only two cases of post-operative Coronavirus infection were registered (0.9%) and both cases resolved with medical therapy and observation.

Conclusions.

Among the patients studied, all surgical techniques were safe and effective for MUO during the COVID era. This group of patients is at high risk for general and coronavirus mortality and therefore should be prioritized for bariatric surgery.

O-042

BARIATRIC SURGERY IN ADOLESCENTS: RESULTS OF MONITORING TO 12 MONTHS

Bariatric surgery in children, adolescents, and young adults

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Introduction:

In Argentina 41.1% of adolescents between 12 and 21 years are overweight and obese, in a proportion of 20.7% to 20.4% Overweight and obesity without differences by socioeconomic status. Obesity is a chronic disease of multifactorial origin, manifested in earlier ages every time. Public health policies should focus aimed at prevention and early treatment. The results offered by these therapeutic strategies are also scarce. Therapies based on changing habits and lifestyles such as eating and exercise plans get in adolescents, BMI reductions 0,21. ± 0.08 kg / m2

Objective:

Determine the results followed patients undergoing Adolescent Metabolic and Bariatric Surgery at the Center for Obesity and Metabolic Diseases Malvinas Argentinas, in the period 2018.

Materials and Methods:

Observational, cross-sectional type retrospective in which patients were included Adolescent bariatric surgery in 2018 at the Center for Obesity and Metabolic Diseases Malvinas Argentinas.

Results:

Information obtained from monitoring 34 patients undergoing bariatric surgery teenagers, aged between 15 and you 21 years with a mean age of 20.52 1.04 years. A 64.71% of the patients underwent a OAGB, to 29.41% of patients underwent a Gastric Sleeve, and 5.88% of patients underwent a RYGB. The 73.52% made before surgery two years or more of medical treatment, either assist to drop weight groups, visit a nutritionist or both, obtaining a failure in such treatment. Preoperative average weight of 113,83 ± 18,98 was kg, with a medium BMI 43,37 ± 7,08 kg/m2 and excess pre surgical weight average 62.05% to the average weight ideal. EBMW% on average for the year was 83.19 ± 21.13 kg with a mean BMI of 29,28 ± 4 kg / m2. The average was the LBMI% 31,98 ± 5,07, the EWL was 64,7 ± 13,65%. The most frequent comorbidities were Hypothyroidism (23.52%), type 2 diabetes (14.7%) and hypertension (11.76%).

Conclusions:

This work shows that adolescent patients with severe obesity led to a Bariatric Surgery had an excellent result at 12 months follow-up, since the EBMW% exceeds 65% was reduced Pathological weight and keep improving comorbidities reduced quality of life, increasing life expectancy of adolescent patients, resulting in changes to physical, psychological, cultural and social level. It is a safe surgery, with no change in the risks to adults. Sleeve Gastrectomy is an excellent alternative after failure to medical treatments.

O-043

BARIATRIC SURGERY IN PATIENTS PREVIOUS COVID-19 INFECTION

Basic science and research in bariatric surgery

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Introduction:

Reintroducing bariatric surgery to our communities in a COVID-19 environment was particular to each country. Furthermore, no clear recommendation was made for patients with previous COVID-19 infection and favorable outcome seeking for bariatric surgery.

Objective:

The purpose of the current manuscript is to analyze the risk of specific complications for patients with previous COVID-19 infection who were admitted for bariatric surgery. 8 high volume private centers from 5 countries

Methods:

All patients with morbid obesity disease and previous COVID-19 infection admitted for bariatric surgery were included in the current study. Patients were enrolled from eight centers and five countries and their electronic health data were reviewed retrospectively. The primary outcome was to identify early (<30 days) specific complications related to COVID-19 infection, following bariatric surgery and the secondary outcome was to analyze additional work up to prevent them.

Results:

Thirty-five patients with a mean age of 40 years (range 21 – 68) and mean BMI of 44.3 kg/m2 (± 7.4 kg/m2) with previous COVID-19 infection underwent different bariatric procedures: 23 cases of sleeve (65.7 %), 7 cases of bypass, and 5 other cases. The symptomatology of the previous COVID-19 infection varied: no symptoms (15 patients), fever and respiratory signs (12 patients), only fever (5 patients), digestive symptoms (2 patients), and isolated respiratory signs (one patient). Only 5 patients (14.2 %) were hospitalized for COVID-19 infection for a mean period of 8.8 days (range 6-15 days). One patient was admitted in intensive care unit and needed invasive mechanical ventilation. The mean interval time from COVID infection to the bariatric surgery was of 11.3 weeks (3 - 34 weeks). Hospital stay was 1.7 days (± 1) and all patients were clinically evaluated one month following the bariatric procedure. There were 2 readmissions and one case of complication: one case of gastric leak treated with laparoscopic drainage and repeated pigtail drain with favorable outcome. No case of other specific complications or mortality were recorded.

Conclusion:

Minor and moderate COVID-19 infections, especially the forms not complicated with invasive mechanical ventilation should not preclude the indication for bariatric surgery. In our experience, the previous COVID-19 infection has not induced additional specific complications following bariatric surgery.

O-044

BARIATRIC SURGERY MAY IMPAIR FERTILITY IN MEN INDEPENDENTLY OF SEX HORMON PROFILE, VITAMIN DEFICIENCIES OR BASELINE GONADAL AND SEXUAL FUNCTIONS

Fertility, pregnancy, nutrition and bariatric surgery

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Introduction:

Obesity is associated with decreased fertility in both men and women. Erectile dysfunction, secondary obesity hypogonadism (MOSH) and impaired sperm quality (SQ) are observed in half of obese patients. Bariatric surgery (BS) allows weight loss and improvement of many obesity-related comorbidities, including female fertility, but few data exist regarding male sexual function.

Objectives:

To describe male sexual function in a grade 3 obese population and to assess the impact of BS on erectile function (EF), plasma sex hormone profile (PSHP), and SQ.

Methods:

In this prospective cohort (NCT03528980) were included men eligible for BS (HAS 2009). The International Index of Erectile Function (IIEF) was assessed preoperatively and at one year. Clinical parameters (weight, BMI, comorbidities), sperm parameters (sperm count (SC), volume, vitality, morphology) and PSHP were assessed preoperatively and at one and two years postoperatively.

Results:

Fifty-eight patients were included (40±1 years, 44.8 kg/m2 [41.2-50.9]). Preoperatively, the median IIEF was 50 [25-62.5] and 10 (24%) patients had erectile dysfunction (IIEF<25). The median LOS was 125.3.106 [65.1-407.6]. Four (8.7%) patients had oligozoospermia (NS<39.106) and 4 (8.7%) had severe oligozoospermia (NS<5.106). Testosteronemia was decreased preoperatively posing the diagnosis of MOSH (N<10.5 nmol/L) in 25 (55%) patients. Forty-three patients underwent surgery (28 gastric bypass (GBP), 12 sleeve gastrectomy (SG), 3 gastric bands). At 1 year, BMI was 31.6 kg/m2 [29.3-37.4] with no difference between SG and GBP (p=0.532). The IIEF was improved (p=0.001) and only 2 (6.9%) patients still had an IIEF<25. Only 3 (9.7%) patients had OSH (p<0.001) and testosterone was normalized (17.8 [13.3-26.4], p<0.001). NS was decreased (p=0.023), oligozoospermia (8 patients (25.8%)) and severe oligozoospermia (5 patients (15.6%)) tended to be more frequent (p=0.087). At 2 years, these results were confirmed (1 vs 2 years: MOSH p=0.283, testosterone p=0.668 and NS p=0.185). At the same time, only Zinc (1 year p=0.001, 2 years = 0.029) and Iron (1 year p=0.022) were found significantly decreased.

Conclusion:

BS allows an improvement of EF and PSHP at 1 and 2 years after surgery, compared to an alteration of SQ that persists in the long term. These results should make us discuss fertility preservation in young patients without children.

O-045

BARIATRIC SURGERY PERFORMED AT A TERTIARY CARE HOSPITAL AND AT ITS AMBULATORY SITE: A COMPARISON OF OUTCOMES, OR EFFICIENCIES AND COSTS

Perioperative management

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Introduction:

Obesity is a chronic disease with limited access to surgical treatment in Canada.

Objective:

The objective of this study was to compare outcomes, operating room (OR) efficiencies, and costs of performing primary bariatric surgery at a tertiary care hospital (TS) and its ambulatory site (AS) over 5 years.

Methods:

We performed a retrospective cohort study of consecutive patients over the age of 18 who underwent primary laparoscopic Roux-en-Y gastric bypass (LRYGB) and sleeve gastrectomy (LSG) between September 2016 and August 2021 at TS and AS. We compared patient demographics, OR (combined surgery and anesthesia) times, duration of OR turnovers, time in PACU, and 30-day post-op complications. We matched patients at TS and AS on demographic characteristics and comorbidities to compare costs.

A total of 805 patients (762 LRYGB, 43 LSG) had surgery at AS, while 109 (92 LRYGB, 17 LSG) at TS. Demographics were significantly different at AS versus TS: sex (91% vs 78% female; p<0.01), age (43.1+/-10.0 vs 50.5+/-11.4 years; p<0.01), BMI (46.3+/-6.0 vs 51.0+/-10.8kg/m2; p<0.01), ASA (3(2-3) vs 3(3-3); p<0.01), and EOSS (2(1-2) vs 2(2-3); p<0.01). Mean OR times were significantly shorter for LRYGB (150+/-24 vs 178+/-51 min; p<0.01) and LSG (123+/-24 vs 147+/-34 min; p=0.01) at AS vs TS. OR turn overs were significantly faster at AS vs TS (19.2+/-6.0min vs 28.1+/-6.1min; p<0.01), as were the PACU times (2.4+/-0.6hrs vs 3.1+/-1.5hrs; p<0.01).

Results:

Over the 5 years, the OR times decreased significantly for LRYGB at AS (from 161+/-24min to 141+/-20min, p<0.01); however, no change was seen in OR times for LSG at both sites, PACU times at both sites, and LRYGB times at TS. There was no change in OR turnovers over the 5 years at AS (ANOVA; p=0.69), while turnover time at TS increased over time (ANOVA; p<0.01). Proportion of patients requiring transfer from AS to TS remained constant (range 1.5-6.2%/year; p=0.14). 30-day complication rates were similar between AS and TS sites (5.5-11% vs 0-15%; p=0.12). The costs for matched patients were similar between sites (8895+/-1360CAD vs 8858+/-2455CAD, p=0.92).

Conclusion:

LRYGB and LSG can be safely performed at AS of TS with the added advantage of improved OR efficiency; however, without significant cost savings. Proportion of patients that required transfer from AS to TS for a post-op complication did not decrease despite 5-year evolution of the program, suggesting that caution should be exercised in performing such procedures at AS without TS affiliation.

O-046
BARIATRIC SURGERY SHOULD BE OFFERED TO ACTIVE-DUTY MILITARY PERSONNEL: A RETROSPECTIVE STUDY OF THE CANADIAN ARMED FORCES' EXPERIENCE

Registries and quality in bariatric surgery

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Introduction:

Canadian Armed Forces (CAF) personnel are as affected by obesity as the Canadian civilian population. Most Western armies are similarly afflicted. Bariatric surgery is an effective, durable, and accepted treatment for obesity in civilian practice. However, it is not yet approved for soldiers still in active duty in most countries worldwide. The CAF has authorized bariatric surgery in its Spectrum of Care since 2005. We hence report the CAF experience with members undergoing bariatric surgery while in service.

Objectives:

To assess weight loss, resolution of obesity-related comorbidities, and the impact of surgery on military careers.

Methods:

We retrospectively reviewed perioperative data, long-term bariatric and military outcomes of 108 CAF active-duty military personnel who underwent bariatric surgery in Canada during a 61-month period. Data was obtained through medical records and insurance registry review. Data is reported as Mean ± Standard Deviation.

Results:

The cohort was predominantly male (66,7%) with a mean age of 42 ± 4.8 years and mean preoperative Body Mass Index of 43.6 ± 5.8 kg/m2. Roux-Y gastric bypass was performed on 59 patients, sleeve gastrectomy on 29 and gastric banding on 20. All surgeries were performed laparoscopically. The mean last follow-up was performed at 31.3 ± 18.5 months. There was no mortality. Early and late major complications occurred in 6.5% and 9.2% of patients respectively. Revisional surgery was performed in 5 patients. Total body weight loss at last follow-up visit was 22.5 ± 11.0%. There was resolution or improvement of diabetes in 76.7% of patients; hypertension in 73.4%; dyslipidemia in 55.2%; gastroesophageal reflux disorder in 43.6% and sleep apnea in 41.2%. One patient (0.9%) was medically released from the CAF because of postoperative complications of an anastomotic leak. Fifteen patients (13.9%) were deployed postoperatively. Combined deployable and possibly deployable status went from 35,4% before surgery to 47,9% postoperatively.

Conclusion:

To our knowledge, this is the largest series of bariatric surgeries performed in active-duty military personnel. Bariatric surgery is effective, safe and improves deployability without impairing military careers. These results are highly relevant to the military administrations of most industrialized countries as bariatric surgery should be offered to all active-military personnel who meet surgical criteria for the treatment of their obesity

Table 1 Operative Data

Perioperative data (n=108)	
Type of surgery	
• Roux-Y Gastric Bypass	59 (54.6%)
• Sleeve Gastrectomy	29 (26.9%)
• Adjustable Gastric Band	20 (18.5%)
Laparoscopic approach	108 (100%)
Conversion	0
Revision Procedure	5 (4,6%)
Complications:	
Mortality	0
Early Major Complications <30 days)	7 (6.5%)
• Upper GI bleeding	3
• Anastomotic leak	2
• Deep Vein Thrombosis / Pulmonary Embolism	2
Early Minor Complications (<30 days)	11 (10.2%)
• Superficial site infection	7
• Nausea	3
Late Major Complications (> 30 days)	10 (9.7%)
• Gastric band complications	4
• Perforated anastomotic ulcer	1
• Internal hernia	1
• Gastro-gastric fistula	1
• Incisional hernia	1
• Undiagnosed Eating Disorder	1
• Intractable vomiting requiring surgical conversion	1
Late minor complications	22 (20.4%)
Postoperative Data (n=106)	
• Last follow-up (month)	31.3 ± 18.5
• Weight at last follow up (kg)	101.3 ± 22.5
• Weight loss at last follow up (kg)	29.6 ± 15.8
• Body mass index (kg/m2)	33.7 ± 6.3
• Total Weight Loss (TWL) (%)	22.5 ± 11.0
• Excess Weight Loss (EWL) (%)*	49.3 ± 25.0
Comorbidities – Resolution or Reduction	
• Sleep apnea	28 (41.2%)
• Hypertension	34 (73.4%)
• GERD	17 (43.6%)
• Dyslipidemia	16 (55.2%)
• Diabetes	23 (76.7%)

Data presented as mean ± standard deviation or number of patients (percentage of sample)
* with BMI 23 kg/m2 as reference

Table 2 Military Data

Officers	9 (8,3%)
Medical Categories (n=102)	
Geographic (G) factor modification	
• Improved	34 (33.3%)
• Unchanged	49 (48.0%)
• Deteriorated	19 (18.6%)
Occupational (O) factor modification	
• Improved	25 (24.5%)
• Unchanged	59 (57.8%)
• Deteriorated	18 (17.6%)
Military Release	53 (49.1%)
• Retirement / Voluntary	2
• Medical	51
Before surgery	*16*
• Post-Traumatic Stress Disorder	5
• Musculoskeletal disorder	5
• Mental health issues	3
• Cardiovascular disease	2
• Complicated diabetes	1
After surgery	*35*
• Post-Traumatic Stress Disorder	13
• Musculoskeletal disorder	12
• Mental health issues	6
• Cardiovascular disease	1
• Bariatric postoperative complications	1
• Vertigo	1
• Unavailable	1
Deployability	
• Postoperative deployment (n=108)	15 (13.9%)
Deployability by medical categories	
• Preoperative (n=107)	
• Deployable	30 (28.0%)
• Possibly deployable	8 (7.4%)
• Not deployable	24 (22.4%)
• Not assessable	45 (42.1%)
• Postoperative (n=102)	
• Deployable	36 (35.2%)
• Possibly deployable	13 (12.7%)
• Not deployable	46 (45.1%)
• Not assessable	7 (6.9%)

Data presented as mean ± standard derivation or number of patients (percentage of sample)

O-047

BARIATRIC SURGERY VS MEDICAL TREATMENT IN MILDLY OBESE PATIENTS WITH TYPE 2 DIABETES MELLITUS IN JAPAN: PROPENSITY SCORE-MATCHED ANALYSIS ON REAL-WORLD DATA

Type 2 diabetes and metabolic surgery

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Objectives:

To compare glycemic control one-year after treatment in patients with mildly obese type 2 diabetes mellitus (T2DM) who underwent bariatric surgery (BS) to those who received medical treatment (MT) in Japan.

Methods:

A retrospective study using real world data was conducted with T2DM in electronic medical records from Yotsuya Medical Cube and in Japan Medical Data Center (JMDC) claim database from 2008 to 2019. Each patient was propensity score-matched between the BS group and the MT group by age, gender, BMI, HbA1c, and T2DM duration and compared from the index date to the one-year post-index.

Results:

The study included 78 patients in the BS group and 238 patients in the MT group participants. Mean BMI in the BS and the MT group was 32.1 kg/m2 and 32.0 kg/m2, respectively. In the BS group, the patients underwent either laparoscopic sleeve gastrectomy with or without duodenojejunal bypass. The diabetes remission rate (HbA1c <6.5% without diabetes medication) at 1 year was 59.0% in the BS group and 0.4% in the MT group (p <0.0001). Optimal glycemic control of HbA1c <7.0% was achieved in 75.6% in the BS group and in 29.0% in the MT group (p <0.0001). The median monthly drug costs for metabolic syndrome decreased from USD 126.5 (at baseline) to USD 0.0 (at 1 year) in the BS group, while it increased from USD 52.4 to USD 58.3 in the MT group.

Conclusions:

Bariatric surgery for mildly obese patients with T2DM is more clinically- and cost-effective than medical treatment.

O-048

BILE REFLUX AFTER ONE ANASTOMOSIS GASTRIC BYPASS - A WOLF IN SHEEP'S CLOTHING OR JUST A SHEEP?

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

The excellent metabolic outcomes of the laparoscopic one anastomosis gastric bypass (LOAGB) remain sullied by the contentious risk of post-operative bile reflux and its theoretical carcinogenic potential. There is limited data on the incidence and severity of post-operative bile reflux, with comparative studies lacking. Further, since conception of this surgical technique and over the interim 20 years, the rate of cancers has failed to demonstrate an association.

Objectives:

This study utilised tailored biliary scintigraphy and upper gastrointestinal endoscopy to evaluate bile reflux after LOAGB, laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y gastric bypass (LRYGB).

Methods:

Fifty-eight patients underwent LOAGB (20), LSG (15) or LRYGB (23) between November 2018 and July 2020. Baseline pre-operative reflux symptom assessment and gastroscopy assessing for macro-/microscopic gastroesophagitis were performed and repeated 6-months post-operatively along with biliary scintigraphy.

Results:

Bile reflux into the gastric pouch/sleeve was identified in 14 LOAGB patients (70%), four LSG patients (26.7%), and one LRYGB patient (4.3%). The mean % of gastric pouch reflux activity in positive studies was 3.1% (SD 1.6). One patient (LOAGB) had oesophageal bile reflux demonstrated by biliary scintigraphy. De novo macro- or microscopic gastroesophagitis were seen in 11 LOAGB (55%), 8 LSG (53%), and 7 LRYGB (30.4%) patients. Thirteen patients had worsened reflux symptoms post-operatively (LOAGB – 4; LSG – 7; LRYGB – 2). There was no statistical association between bile reflux seen on biliary scintigraphy, de novo gastroesophagitis, or reported reflux symptoms.

Conclusion:

Despite the high incidence of small volume bile reflux into the gastric pouch post-LOAGB, the incidence of de novo gastroesophagitis is indistinguishable from LSG. With very few reports of tumour development post-LOAGB on emerging long-term results, frequent low volume bile reflux may be of little clinical consequence and emphasis should be placed on appropriate post-operative endoscopic surveillance.

O-049

BIOIMPEDANCE PHASE ANGLE ASSOCIATION WITH SERUM ALBUMIN AND HAND GRIP STRENGTH IN PATIENTS UNDERGOING BARIATRIC SURGERY

Basic science and research in bariatric surgery

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Introduction:

Bioelectrical impedance analysis (BIA) is an indirect method for the estimation of body composition through the measurement of two bioelectrical parameters: body resistance and reactance. Many biochemical parameters such as serum albumin levels have also been used to predict the prognosis of patients undergoing bariatric surgery. The aim of the present study was to evaluate associations between anthropometric measurements such as phase angle (PhA) measurement and HGS (hand grip strength) with serum albumin in patients undergoing bariatric surgery.

Method:

Between February 2019 and February 2020, 42 patients (28 female) underwent bariatric surgery (3 mini gastric bypass and 39 sleeve gastrectomy). Bioelectrical impedance analysis (BIA) was performed before and two times within the first year after the operation. The study was approved by the Ethics Committee of Evaggelismos Hospital. All subjects signed a consent form.

Results:

Participants' mean age was 37.4 years (± 10,2 years) and the average length of hospital stay was 2.6 days (±2,4 days). The mean phase angle values were 6.2°, HGS 25.22 kg and mean albumin levels 4.3 gr/dl. There was a significant and strong positive correlation between serum albumin and Pha levels (r= 0.282, p= 0.011) and HGS (r= 0.313, p= 0.003).

Conclusion:

In a sample of patients undergoing bariatric surgery, PhA levels were positively correlated with both HGS and serum albumin levels.

O-050

BODY APPRECIATION AFTER BARIATRIC SURGERY: CROSS-SECTIONAL STUDY

Young IFSO session

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Introduction:

Surgical weight loss improves quality of life and self-esteem. However, the impact of weight loss after surgery on body appreciation is not well known. This study aimed to assess body appreciation in patients after bariatric surgery.

Method:

The study was cross-sectional. The investigated group included patients after bariatric surgery. The first control group consisted of patients with obesity and the second control group included healthy individuals. The groups were asked to complete the Body Appreciation Scale -2 (BAS-2).

Results:

One hundred sixteen patients were enrolled in the studied group, and 44 patients with obesity in the first control group. The second control group consisted of 378 healthy students. In the BAS-2, the total score was 3.26 ±1.00 in the bariatric group, which was significantly higher than 2.90 ±0.86 in the first control group (p=0.032) but comparable to the young, healthy individuals (3.43 ±0.85, p=0.032). The change in BMI (ΔBMI) was positively correlated with the total BAS score (r=0.290, p=0.002).

Conclusion:

The study shows that patients after bariatric surgery have a higher total score in BAS-2, reflecting higher body appreciation when compared to individuals with obesity. Body appreciation was similar to a young and healthy population.

O-051

BRONCHO-BILIARY FISTULA FOLLOWING REVISION GASTRIC BYPASS SURGERY: A CASE REPORT

Revisional surgery

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Objective:

Obesity continues to be a major health problem in the United States. Bariatric surgery, including the Roux-en-Y gastric bypass (RYGB), has been proven to demonstrate significant weight loss while dramatically improving the burden of metabolic disease and adverse cardiovascular risk profile associated with obesity. However, it has various complications associated with it including anastomotic stricture/leak, internal hernia, marginal ulcer, dumping syndrome and rarely, broncho-biliary fistulas.

Method:

We present a patient with a history of RYGB requiring revision secondary to a chronic gastrojejunal (GJ) ulcer with post-operative recovery complicated by broncho-biliary fistula, pancreatic fistula, chronic pneumobilia and deep venous thrombosis (DVTs).

Results:

41-year-old female with a history of RYGB in 2008 complicated by refractory gastrojejunal (GJ) ulcers. In 2017, the patient underwent a laparoscopic resection of her GJ segment including a portion of the gastric pouch, proximal roux limb, excluded stomach, and GJ ulcers; with revision of the gastric bypass and creation of a new gastrojejunostomy. Her recovery was complicated by severe thrombocytopenia secondary to Immune thrombocytopenic purpura (ITP) managed with prednisone. Additionally, the patient was noted to have significant dilation of her excluded stomach, biliary tree, and duodenum; requiring a percutaneously placed Gastrostomy tube (G-tube) into her excluded stomach for decompression. She was subsequently admitted where she was diagnosed with a DVT, pulmonary embolism (PE), and associated pulmonary abscess. Her PE was treated with anticoagulation and IVC filter placement while Interventional Radiology (IR) drained her pulmonary fluid collection. A broncho-biliary fistula complicated this drainage procedure as the patient was noted to demonstrate post-procedural biliptyisis. The broncho-biliary fistula was treated with internal/external biliary drain placement, glue embolization of segment 8 bile duct branch and GJ tube placement.

Conclusion:

Broncho-biliary fistula is a rare complication of bariatric surgery whose management is complex, technically difficult and poorly described. We offer this case as an example of innovative management with regard to broncho-biliary fistula in a patient with a complex bariatric surgical history.

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O-052

BYPASS GÁSTRICO LAPAROSCÓPICO CON ASA BILIOPANCREÁTICA - ALIMENTARIA 70/150CM VS. 150/70CM. ESTUDIO MULTICÉNTRICO BPG-1

Gastric bypass procedures including Roux-en-Y gastric bypass (RYGB) and One Anastomosis gastric bypass (OAGB)/ MGB

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Introducción:

Distintos estudios publicados muestran mejor pérdida ponderal y remisión de las comorbilidades dejando un asa biliopancreática (ABP) de 150-200cm en el bypass gástrico, sin estar claro si podría haber más complicaciones, en cuanto a desarrollo de hernias internas, déficits nutricionales, alteración de la microbiota intestinal o aumento del tránsito. Por otra parte la longitud intestinal puede oscilar de 3 a 9m y si se deja un asa común (AC) excesivamente corta puede ocasionar déficits nutricionales severos. Sin embargo, no solemos medirla en el bypass gástrico.

Objective:

Presentar el estudio prospectivo multicéntrico iniciado en 2018, en el que se aleatorizan los pacientes obesos subsidiarios de bypass gástrico laparoscópico con diferentes longitudes de asa alimentaria (AA) y ABP para comprobar su efecto ponderal y metabólico. A su vez se analiza la posible influencia de la longitud intestinal total en dichos.

Metodos:

Estudio multicéntrico, prospectivo, aleatorizado en bloques (1:1) y ciego para el paciente, bajo los principios éticos que aparecen en la declaración de Helsinki-Fortaleza 2013 y el Convenio de Oviedo.
Población a estudio: pacientes con obesidad (IMC 35-50), que habiendo completado el circuito multidisciplinar habitual son considerados para realizar bypass gástrico.
Técnica: se randomiza a bypass gástrico laparoscópico tipo 1 (AA de 150cm y ABP de 70cm) o tipo 2 (AA de 70cm y ABP de 150 cm). Medición de la longitud intestinal total en todos los pacientes.
Tamaño muestral: se ha calculado con un poder estadístico del 80% y un nivel alpha de 0.05, siendo de 36 pacientes en cada brazo. Corregido con un 15% de posibles pérdidas, corresponde a 84 pacientes.
Las variables a estudio son: EWL%, remisión o mejoría de la DM, HTA, DL, SAOS y déficits nutricionales.

Resultados:

Ambos grupos son comparables y no han mostrado diferencias estadísticamente significativas en cuanto a género, edad, comorbilidades asociadas e IMC inicial

DATOS DEMOGRÁFICOS			
	BPG tipo 1 (n=40): AA 150/BP 70	BPG tipo 2 (n=39): AA 70/BP 150	p
Mujeres	31	25	0,19
HTA	19	21	0,573
DL	23	22	0,922
SAOS	23	28	0,184
DM2	18	15	0,556
EDAD: media (DE)	47 (8)	46 (9)	0,613
IMC: media (DE)	44,18 (4,8)	44,9 (3,9)	0,471
EP: media (DE)	52'5 (14,1)	55,2 (13,4)	0,393

A 6 meses: no hubo diferencias en el tiempo quirúrgico, en las complicaciones intraoperatorias ni en las postoperatorias tanto precoces como tardías a más de 30 días.

DATOS PERIOPERATORIOS			
	GRUPO 0 (n=40): AA 150/BP 70	GRUPO 1(n=39): AA 70/BP 150	p
Duración media (DE)	135 (31)	141 (29)	0,384
Complicaciones*	5	10	0,137
Estancia media (DE)	2,6 (1)	2,6 (0,6)	0,805

Tampoco en el EWL%, que fue del 66% en el tipo 1 y del 70% en el tipo 2, ni en la remisión o mejoría de las comorbilidades.

Conclusión:

El estudio todavía se encuentra en fase de reclutamiento. Este análisis intermedio a 6 meses no ha demostrado diferencias de EWL% ni mejoría de comorbilidades

O-053

CAN CLOUD BASED AI-DRIVEN VIDEO ANALYTICS FOR BARIATRIC MINIMALLY INVASIVE SURGERY ENHANCE SURGICAL TRAINING AND MENTORING

Artificial intelligence

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Introduction:

Surgical video recording is an essential part of modern-day surgical practice. It serves multiple uses including media for training, continued performance assessment and quality improvement. With the advances in surgical technology, recording videos has evolved from traditional laparoscopic hard drives to automated clouding platforms. These platforms make recording and viewing surgery much more applicable and useful through a secured limitless storage. This also has the advantage of integrated artificial intelligence (AI) applications.

Objective:

To provide an overview of some of these applications and what they offer in relation to bariatric surgery.

Method:

An overview demo of three platforms (Theatre Inc., Touch Surgery™, C-SATS®) highlighting some of their features on Bariatric surgery mainly in sleeve gastrectomy and Gastric Bypass procedures.

Results:

Theatre Inc., Touch Surgery™, C-SATS® are among platforms which provides cloud-based AI driven video storage and analysis. They provide a wide range of automation and analysis for different types of bariatric surgeries. This foundation is complemented with powerful AI and computer vision capabilities which help in annotating and segmenting videos, analyzing surgical steps, and provide powerful insights as well as providing a communication tool for video sharing and guidance and potentially additional features for different technology offering.

Conclusion:

Cloud based AI-driven video analytics platform is a new way of storing, analyzing, and reviewing surgery videos. They provide bariatric surgeons with a powerful AI integrated which will help to improve training, performance, and standardizing procedures with future integration and broader adaptation.

O-054

CAN NONALCOHOLIC STEATOHEPATITIS BE SURGICALLY CURED? LIVER HISTOLOGICAL COMPARISON AFTER METABOLIC SURGERY VERSUS USUAL CARE

NASH and bariatric sSurgery

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Introduction:

Non-alcoholic steatohepatitis (NASH) is a manifestation of the metabolic syndrome for patients with obesity and is one of the leading causes of hepatocellular carcinoma and cirrhosis.

Objective:

To compare the effects of metabolic surgery versus nonsurgical care on histological progression of non-alcoholic steatohepatitis (NASH).

Methods:

Repeat liver biopsies were performed in patients with BMI >30 kg/m2 at a US health system whose baseline liver biopsy between 2004 and 2016 confirmed histological diagnosis of NASH including presence of liver fibrosis but without cirrhosis. Histological disease activity, liver fibrosis stage, and time interval between liver biopsies for patients who underwent simultaneous liver biopsy at the time of metabolic surgery were balanced with a nonsurgical control group using overlap weighting methods. Primary composite outcome required both resolution of NASH and improvement of at least 1 fibrosis stage in the repeat liver biopsy.

Results:

One hundred thirty-three patients (42 metabolic surgery and 91 nonsurgical controls) had repeat liver biopsies with a median interval of 2 years. Overlap weighting provided exact balance for baseline histological disease activity, fibrosis stage, and time interval between liver biopsies. In overlap-weighted patients, 50.1% in the surgical and 12.1% in the nonsurgical group met the primary endpoint (odds ratio 7.3 [95% CI, 2.8-19.2], P <0.001). NASH resolution and fibrosis improvement occurred in 68.5% and 64.1% of surgical patients, respectively (Figure 1).

Conclusion:

Among patients with fibrotic non-cirrhotic NASH, metabolic surgery resulted in both NASH resolution and fibrosis improvement in more than half of patients.

ORAL ABSTRACTS

O-055

CARDIOVASCULAR DISEASE RISK SCORES IN PATIENTS WITH OPTIMAL WEIGHT LOSS VS. SUBOPTIMAL WEIGHT LOSS AFTER PRIMARY BARIATRIC SURGERY

Cardiovascular risk and bariatric surgery

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Background:

Several studies have evaluated the modification of cardiovascular risk factors after bariatric surgery. However, evidence on modification of cardiovascular risk scores in patients with suboptimal weight loss (SWL) after primary metabolic bariatric surgery (MBS) is limited.

Objectives:

To evaluate cardiovascular disease (CVD) risk modification in patients with optimal weight loss (OWL) versus SWL following MBS.

Methods:

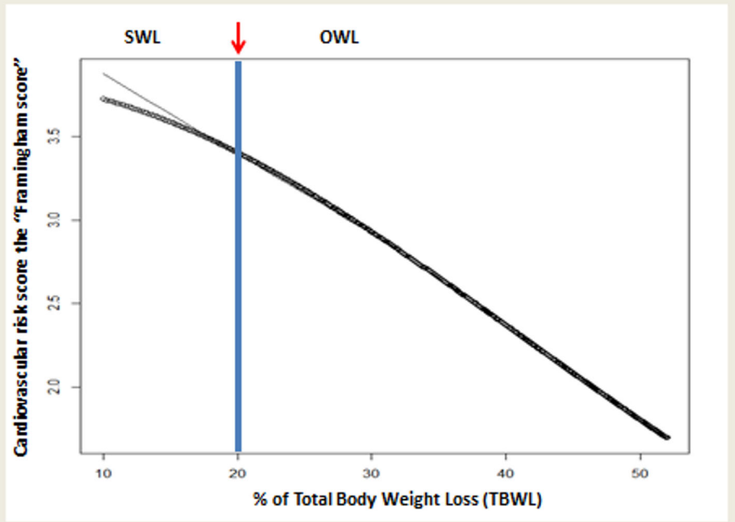
Retrospective analysis from our bariatric surgery registry was conducted. Patients over 30 years of age who underwent MBS from 2015 to 2020 were included. The 10-year risk of coronary heart disease and cardiovascular events was estimated before and after one year of surgery using the “Framingham Score”. Linear mixed-effects modeling was used to estimate the change in log odds of CVD risk as a function of weight loss 12 months post MBS. SWL was defined as < 20% of total body weight loss (%TBWL).

Results:

191 patients were included in our study. 68% were female with a mean age of 43 ± 9 years. Pre-operative mean BMI was 43 ± 6.7 kg/m2. Incidence of weight-related comorbid conditions included 60% with dyslipidemia, 40% with hypertension, and 34% with type-2 diabetes mellitus. Seven patients were smokers. Mean baseline Framingham score was 7.2 ± 6.9%. According to the score, 54% of patients were classified as low risk (n=104), 23% as moderate (n=43), 20% moderately high (n=39) and 3% as high risk (n=5). One year after surgery, 91% of the patients showed reduction of their Framingham score. Mean CVD risk score decreased significantly to 4.1 ± 3.7% when compared to baseline (p-value is <.001); 80% of patients classified as low risk (n=153), 13% as moderate (n=25), 7% moderately high (n=13) and 0% as high risk (n=0). Percentage of TBWL at 12 months ranged from 8.4% to 51.5%, with a mean of 28%. Our analysis found that %TBWL at 12 months is correlated with the magnitude of the decline in CVD risk across all values of %TBWL represented in our sample. Even among patients with SWL, a reduction in CVD risk score was seen, and for those with OWL the amount of CVD risk reduction was greater (Figure 1).

Conclusion:

Weight loss after bariatric surgery reduces CVD risk scores and the magnitude of effect correlates with the degree of weight loss.



O-056

CAN VISCERAL ADIPOSE TISSUE GENE EXPRESSION DETERMINE METABOLIC OUTCOMES POST-BARIATRIC SURGERY?

Basic science and research in bariatric surgery

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Introduction:

Bariatric surgery (BSX) is known to induce significant weight loss and improve comorbidities, such as type II diabetes, insulin resistance (IR), hypertension and metabolic syndrome. However, some individuals do not achieve successful weight loss and/or improvement in comorbidities. Recent research has shown that visceral adipose tissue (VAT) characteristics may contribute to post-BSX success.

Objective:

The aim of this study was to determine if peri-operative VAT gene expression can determine metabolic success 12-months post-BSX. We compared VAT between 1) those whose IR improved versus persisted; 2) those whose metabolic syndrome improved versus persisted; 3) those who achieved adequate weight loss (≥20% total body weight (TBW)) versus those who did not.

Methods:

Patients were recruited from the Toronto Western Hospital Bariatric Clinic. VAT was collected at the time of BSX. VAT gene expression was assessed by RT-PCR, including markers of thermogenic capacity, inflammation, fibrosis, adipokines, and others Biochemical, anthropometric and demographic information were also collected pre-BSX. Groups were compared using Kruskal-Wallis test followed by Wilcoxon ranked sum, or chi-squared and Fisher's exact test. Data was considered to be statistically significant with a p-value less than 0.05. Data was collected for 126 patients, of which 85 patients (67%) had IR (HOMA ≥2.73) at baseline. Those with persistent IR (n=21) 12 months post-BSX had higher baseline VAT fibrotic gene expression and inflammatory marker expression than those whose IR resolved post-surgery (n=64). 36 patients (29%) had metabolic syndrome at the time of BSX of which 9 patients had persistent metabolic syndrome 12-months post-BSX. We found that those with persistent metabolic syndrome had higher baseline VAT expression of browning markers, adipokines, and fibrotic markers than those whose metabolic syndrome resolved. Finally, we found that 16 patients (13%) achieved inadequate weight loss (<20% TBW) 12 months post-BSX. These patients had higher expression of inflammatory and fibrotic markers compared to those who achieved adequate weight loss (110, 87%).

Results:

Results show that there is a significant difference in the expression pattern of intra-operative VAT samples from patients with varied post-surgical outcomes. VAT characteristics may relate to development of metabolic comorbidities and possible reversal following BSX. This may help to predict which patients may have favorable post-operative outcomes.

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O-057

CHALLENGING THE DEEP VEIN THROMBOSIS TO PE PARADIGM: RE-EVALUATION OF POSTOPERATIVE VENOUS THROMBOEMBOLIC EVENTS AFTER BARIATRIC SURGERY

Enhanced recovery in bariatric surgery

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Background:

Venous thromboembolic events (VTE) remain a major concern after bariatric surgery. Although the sequence of venous thrombosis (DVT) formation and subsequent embolization to the lung is widely taught, recent literature has challenged this paradigm in non-bariatric populations.

Objectives:

We sought to characterize PE, DVT, and the newly appreciated diagnosis of de-novo pulmonary thrombosis (PT) among bariatric surgery patients. We hypothesize that these events may have distinct pathophysiology, risk factors, and associated outcomes.

Methods:

Analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program database from 2015-2019. Patients with PE but no DVT were identified as PT, those with DVT and PE were labeled PE, and those with DVT and no PE were labeled DVT. Univariate and multivariate regression models were created to examine the incidence, independent risk factors, and degree of overlap between these three clinical entities.

Results:

823,389 patients who underwent sleeve gastrectomy (SG) or roux-Y gastric bypass (RYGB) were included. There were 2,301 (0.3%) with some form of postoperative VTE within 30 days. 782 patients (34%) had PT, 157 (6.8%) had PE, and 1,362 (59%) had DVT (Figure 1). The majority (83%) of patients labeled as "PE" had no DVT and likely represent primary pulmonary thrombosis. Multivariate analysis demonstrated distinct risk/causal factor profiles for DVT, PE, and PT with little overlap (Figure 2). The PT risk profile included Black/Native American/Alaskan race, prior PE/PT, lower hemoglobin A1c, RYGB procedure, and longer operative time. The PE risk profile included male sex, increased BMI, history of DVT, lower albumin, and increased operative time. Lastly, the DVT risk profile included prior organ transplant, non-diabetics, IVC filter presence, higher hematocrit, SG procedure, Black race, prior DVT, lower albumin, and increased operative time. All VTE categories were associated with increased mortality, with the greatest increase seen in the PT group.

Conclusion:

VTE are relatively uncommon but significantly morbid complications after bariatric surgery. DVT, PE, and PT have distinct risk factor profiles with minimal overlap and may indicate differing pathophysiological processes for each, and which challenges the common assumption that most PE are embolic phenomena. Prevention and treatment measures and future research may need to classify these as distinct disease processes.

Figure 1. Proportions of patients with no venous thromboembolism, PT, PE, and DVT.

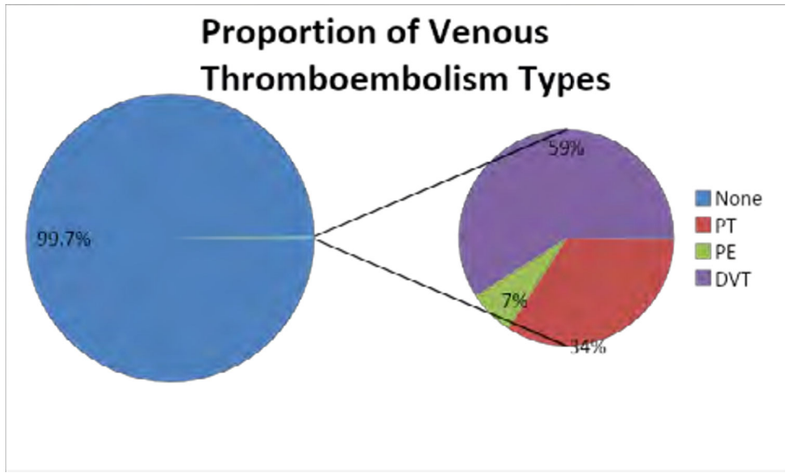
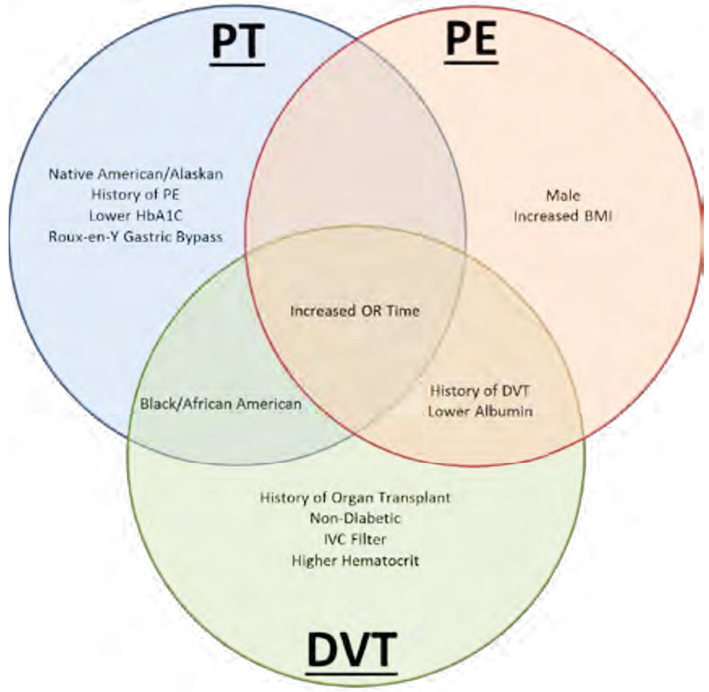


Figure 2. Venn diagram showing overlap of independent risk factors for PT, PE, and DVT.



O-058

CHANGES IN QUALITY OF LIFE OF ADOLESCENTS AFTER BARIATRIC SURGERY: A NATIONWIDE PROSPECTIVE COHORT STUDY

Bariatric surgery in children, adolescents and young adults

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Background:

Bariatric surgery (BS) is an effective treatment for weight loss and health improvement in adolescents with severe obesity. However, changes in the patient-perceived quality of life (QoL) and their association with percent of excess weight loss (%EWL), have been less explored.

Method:

In this multi-center, nationwide prospective cohort study, we evaluated changes in the QoL of 97 adolescents (64% females, aged 17.0±0.9 years, BMI 46.1±5.9 kg/m2). Changes in mental health, physical and social functioning were assessed by self-reported questionnaires before and ~9 months following surgery. The associations between changes in QoL and %EWL or baseline characteristics were examined as potential explanatory factors for QoL changes.

Results:

Following the surgery, BMI decreased by 30%, and all physical parameters of QoL (snoring, pain, and physical activity) improved (p≤0.001). Energy level increased by 24%, mood level by 14%, and mental health by 9.5% (p≤0.002). Social parameters also improved, with a decrease in social rejection, and an increase in participation in after-school social activities. However, QoL changes were not related to the rate of %EWL. The mental health improvement was associated with baseline social rejection.

Conclusions:

BS in adolescents leads to a meaningful decrease in BMI and a notable improvement in QoL, although %EWL was not related to QoL changes. Patients experiencing social rejection may experience greatly improved mental health following BS. We recommend that follow-up after BS in teens should focus on psychological aspects, in addition to the physical care, in order to maximize the potential of post-operative mental QoL improvement.

O-059

CHARACTERIZING THE PREVALENCE AND SAFETY OF REVISIONAL SLEEVE GASTRECTOMY TO ROUX-EN-Y GASTRIC BYPASS COMPARED TO PRIMARY ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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Background:

Sleeve gastrectomy (SG) is the most performed bariatric procedure. However, conversion to Roux-en-Y gastric bypass (RYGB) is often needed secondary to gastroesophageal reflux disease (GERD) and weight regain. Revisional procedures are becoming increasingly common and current evidence evaluating their safety is limited to single centers.

Objectives:

To determine the rate of serious complications and mortality of revisional SG to RYGB (r-RYGB) compared to primary RYGB (p-RYGB).

Methods:

This was a retrospective study of the MBSAQIP database, which includes 30-day outcomes from 885 centers. Individuals undergoing laparoscopic p-RYGB or r-RYGB were included. Data was limited to 2020 as this year included details on primary bariatric procedures in revisional cases. Multivariable logistic regression analysis was performed to determine if revisional surgery was an independent predictor of serious complications. Serious complications included cardiac complications, pneumonia, renal failure, reoperation, reintervention, deep surgical site infection, wound disruption, stroke, venous thromboembolism, leak, and bleed.

Results:

A total of 37,688 (88.2%) patients underwent p-RYGB and 5,026 (11.8%) underwent r-RYGB. Preoperative body mass index (BMI) was lower in the r-RYGB cohort (39.6 vs 45.5 kg/m2, p<0.01). There were lower rates of diabetes (11.0 vs 31.1%, p<0.01) and hypertension (34.1 vs 49.4%, p<0.01) in the r-RYGB cohort. However, rates of GERD were higher in the r-RYGB cohort (71.4 vs 41.8%, p<0.01). GERD was the most common indication for revision (53.6%) followed by weight regain (23.9%) and inadequate weight loss (13.1%).

r-RYGB had longer operative times (147 vs 126 minutes, p<0.01), longer hospital stays (1.8 vs 1.6 days, p<0.01) and had a higher rate of serious complications (7.5 vs 5.1%, p<0.01). This was due to a higher rate of anastomotic leak (0.6 vs 0.4%, p=0.02), bleeding (2.2 vs 1.7%, p<0.01), and reoperation (2.8 vs 1.9%, p<0.01) but not death (0.1 vs 0.1%, p=0.79). On multivariable analysis, r-RYGB was independently predictive of serious complications (OR 1.30, 95%CI 1.15 to 1.48, p<0.01) when adjusting for age, BMI, comorbidities, and operative time.

Conclusions:

The prevalence of revisional RYGB from SG is high, representing 11.8% of RYGB procedures. Our study demonstrates that while r-RYGB is safe with a low complication rate, r-RYGB was associated with a higher rate of serious complications compared to p-RYGB.

O-060

CHOICE OF BARIATRIC SURGERY IN PATIENTS WITH OBESITY AND T1DM: SYSTEMATIC REVIEW OF 706 PATIENTS

Type 2 diabetes and metabolic surgery

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Background:

The prevalence of obesity in the Type 1 Diabetes Mellitus (T1DM) population has been increasing at a worrying rate. Bariatric surgery (BS) has proven to be effective in treating patients with T2DM, as weight changes had a direct effect on insulin resistance and requirements, and thus glycaemic control. However, evidence for the benefit of the procedure for patients with T1DM is still limited, particularly in terms of glycaemic control, demonstrating the need for a systematic review investigating this.

Objective:

This study aims to evaluate current evidence for the choice of bariatric surgery in patients with obesity and T1DM. It reports on changes in weight, insulin requirements, and metabolic control in treated patients, as well as recorded side effects and preferred choice of procedure.

Method:

A systematic review was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, searching databases including PubMed, Ovid, and Embase. Articles not in relation to T1DM or lacking specific quantitative data were deemed unsuitable and excluded. Outcome measures such as weight loss, remission of comorbidities, pre- and post-intervention insulin requirements, and HbA1c levels were extracted.

Results:

Thirty studies were included with a total of 706 patients (F=524, M=74, N/A=60). The mean age was 40.01 years (n=614). The mean weight and BMI were 112.76kg (n=171) and 40.88 kg/m2 (24 - 58.9, n=668) respectively.
The most common procedure performed was RYGB with 497 patients (70.4%), followed by SG with 131 patients (18.6%). Mean decrease of insulin requirements was 92.3 IU/day (36.2-174) preoperatively to a mean of 35.8 IU/day (5-75) post-operatively. No significant trend was found for changes in HbA1c levels. Main side effects were episodes of hypoglycaemia and DKA; mortality was not reported in any article. The mean %EWL was 74.57% (60-90.5%) at ≥6 follow-up months. Reductions in co-morbidities such as hypertension and CVD were recorded in multiple studies.

Conclusion:

Patients with obesity and T1DM can expect significant weight loss, potential resolution of comorbidities, and reduction of insulin requirements, but it does not usually result in improved glycaemic control.

O-061

CIERRE DE BOCA ANASTOMÓTICA CON ARGÓN PLASMA Y ENDOSUTURA ENDOSCÓPICO EN LA REGANANCIA DE PESO DESPUÉS DEL BYPASS GÁSTRICO Y DISTALIZACIÓN DE ASA EN SEGUNDA INSTANCIA

Cirugía revisional

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Introduccion:

El Bypass gástrico en y de Roux (BGYR), ha sido el estándar de oro de la cirugía bariátrica y metabólica por más de 3 décadas y a pesar de su alta eficiencia algunos pacientes recuperan peso siendo una de las cirugías de revisión más frecuente globalmente.

Algunos de los aspectos más controversiales en el manejo de este tipo de re-ganancia incluye el diámetro de la anastomosis, el agrandamiento de la bolsa del estómago y de la longitud del asa intestinal disfuncionalizada.

En primer instancia y en forma endoscópica se usa argón plasma, que se aplica alrededor de la anastomosis con el fin de incrementar su fibrosis (1,5-2 l 50-60 w), seguido de endo-sutura con sistema de Apollo OverStich® 2-3 puntos de sutura con material no absorbible e interrumpidas para disminuir su calibre a menos de 12 mm. En segunda etapa por vía Laparoscópica distalización de asa aproximadamente a 120 cm.

Objetivos:

Lograr perder el peso reganado después del (BGYR) con manejo endoscópico y mínimamente invasivo.
Remisión de las comorbilidades
Satisfacción del paciente

Métodos:

Prospectivamente se revisa los resultados del tratamiento combinado y por etapas en la re-ganancia ponderal después del (BGYR), con anastomosis dilatada y asa distal corta.

El APC y cierre de boca anastomótica realizado mediante un dispositivo endoscópico de suturas transmurales (OverStich-Apollo)® buscando reducir el diámetro de la anastomosis gastroyeyunal y del reservorio gástrico. La distalización de asa en cirugía laparoscópica se incrementó aproximadamente a 120 cm. Se describen aspectos de seguridad viabilidad de las técnicas, y la eficacia de este tipo de técnica.

Resultados:

Pacientes de sexo femenino; la 1ra de 48 años con peso inicial de 180 kg (IMC 68, previo al BGYR), bajo a 105kg, (IMC 40) posteriormente re-gano peso alcanzando 135 kg (IMC 50.3), después del manejo combinado se ha logrado una pérdida de 15 kg (IMC 45.7).

La 2da paciente 48 años, con peso inicial de 110 kg (IMC 42.96, previo al BGYR) bajó a 75 kg (IMC 29) posteriormente re-gano peso alcanzando 100.7 (IMC 39.3) al mes del manejo combinado se ha logrado una pérdida de peso de 10kg (IMC 35.4). En ambos pacientes se disminuyó el tamaño de la boca anastomótica que paso de 5.5 cm a 12mm y remodelación de la bolsa gástrica.

A las 3 semanas después del procedimiento endoscópico se procede a realizar la distalización de asa a 120 cm por vía laparoscópica y en una de ellas se realizó remodelación de la bolsa gástrica.

La primera paciente bajo hasta el momento el 15kg y la Segunda 10 kg, siendo el 50% de su peso reganado y con de mejoría de sus comorbilidades (Hipertensión arterial y diabetes). No se presentaron complicaciones.

Conclusión:

En nuestra muestra pudimos comprobar la seguridad, la viabilidad y la efectividad a corto plazo de este tratamiento combinado, siendo el inicio de un proyecto de inclusión de nuevos con actualizaciones periódicas bajo vigilancia a mediano y largo plazo.

O-062

CLINICAL AND METABOLIC OUTCOME IN PATIENTS UNDERGOING BARIATRIC SURGERY IN SUDAN

Young IFSO session

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Introduction:

Obesity has fairly become a major health problem in Sudan with considerable co-morbidities and associations. Bariatric surgery is evolving as the preferable curative management with significantly promising clinical and metabolic outcome.

Objective:

To study outcome of clinical and metabolic measures of bariatric surgery in Sudan.

Method:

A questionnaire based cross- sectional study was conducted at Al Moalem Medical City. The questionnaire comprises 3 items personal data, preoperative measures, and postoperative measures.

Results:

Of the 110 participants of the study - all underwent bariatric surgery before 1 year-41were type2 diabetic. the majority of them (63.4%) gave glycated hemoglobin of normal range postoperatively on no medication. 38.8% of hypertensive and 70% of patients with dyslipidemia show normal postoperative measures on no medication as well. 92% of participants gained Excess weight loss percentage (EWL%) of> 50%

Conclusion:

The study concluded that bariatric surgery in the third world country, Sudan, provided significant relief for obesity and associated comorbidities including type2 DM and Hypertension.

O-063

COLLATERAL BENEFIT OF SYSTEMATIC IMPROVEMENT IN BARIATRIC SURGERY OUTCOMES FOLLOWING A SINGLE QUALITY IMPROVEMENT PROJECT

Registries and quality in bariatric surgery

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Introduction:

Review of our institution's 2019 MBSAQIP SAR revealed opportunity for improvement for bleeding events. A formal quality improvement project utilizing IHI methodology was initiated with monthly review of data. We postulated that this approach would yield improvement in bleeding events.

Methods:

Following the IHI process of aim and key driver identification, the following interventions were identified: increased utilization of standardized operative techniques (buttressing of staple line, use of intraoperative endoscopy, removal of bladed trocars), confirm appropriateness of transfusion, compliance with heparin and phase out of lovenox through change of existing order sets, root cause analysis of all bleeding events and monthly monitoring for intervention compliance.

Results:

From 2019 to 2020, there was a 62% overall reduction in complications. GI Bleeds were reduced by 85% (14 occurrences to 1) with a 75% reduction in Pneumonia, 70% decrease of unplanned ICU Admit, 60% lowering of bowel obstruction, readmissions and reoperations reduced by 25%, and zero Sepsis/Septic Shock, UTI, unplanned Intubation or PE.

Conclusion:

A single quality improvement project may render collateral benefit to the entire program with additional outcome improvements in other areas.

O-064

CLINICAL OUTCOMES OF SINGLE-STAGE VERSUS TWO-STAGE LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN THE MANAGEMENT OF SUPER OBESITY: A RETROSPECTIVE COHORT STUDY

Multidisciplinary care (primary care, medical management)

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Background:

Background: Laparoscopic Roux-en-Y gastric bypass (LRYGB) in super obese patients (BMI≥50kg/m2) is a challenging operation. Weight loss with intra-gastric balloon (IGB) prior to LRYGB may improve operative outcomes.

Objectives:

Compare clinical outcomes of a two-stage approach (IGB followed by LRYGB) and a single-stage approach (LRYGB only) in super obese patients.

Methods:

Between June 2000 and June 2020, patients with a BMI ≥ 50 kg/m2 underwent either IGB insertion followed by LRYGB (two-stage group), or LRYGB as the definitive bariatric procedure (single-stage group) in our institution. Two stage procedure was adopted for high-risk individuals. Primary outcome measures were percentage total weight loss (%TWL) at 24 months, length of hospital stay and postoperative morbidity. Propensity score analysis was used to account for differences between groups.

Results:

One hundred and fifty-five patients (mean age 42.9 years ± 10.6; mean BMI 54.6 kg/m2 ± 4.53) underwent either the two-stage (n=30) or single-stage procedure (n=125) depending on pre-operative fitness. At 24 months, there was no difference in %TWL between the groups in a matched analysis (32.0% vs 34.7%, p=0.13). Hospital stay following LRYGB was 2.05 ± 0.71 days with two-stage vs 2.35 ± 5.01 days for single-stage approach (p =0.75). There was also no significant difference in length of stay (p=0.75) and complications (p=0.058) between the two groups.

Conclusions:

There was no difference in weight loss after one or two-stage procedures in the treatment of super obesity in a propensity score weighted analysis. Length of hospital stay and perioperative complications were similar for high-risk patients, however the two-stage approach was associated with delayed weight loss. Single-stage management is recommended for moderate risk patients, particularly with significant metabolic disorders whilst two-stage approach is a safe and feasible pathway for high-risk individuals.

O-065

COMBINED THORACIC SPINAL EPIDURAL ANESTHESIA FOR LAPAROSCOPIC SLEEVE GASTRECTOMY; 150 CASES

Anesthesia and bariatric surgery

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Background:

Obesity is a growingly impacting human health concern. Laparoscopic sleeve gastrectomy (LSG) is an effective treatment for morbid obesity. However, the general anesthesia (GA) used in this major surgery has its documented drawbacks in obese patients with high risk. On the other hand, combined thoracic spinal-epidural anesthesia (CTSEA), a modern regional anesthesia procedure, has the advantages of both spinal and epidural anesthesia but without their shortcomings. This prospective study is a case experience that assesses the feasibility of CTSEA as an anesthesia option for laparoscopic sleeve gastrectomy (LSG).

Methods:

A total of 150 patients were recruited for LSG as a management procedure for morbid obesity, which was performed under CTSEA. Perioperative events, functional parameters, and patients' satisfaction scores were recorded.

Results:

Our prospective study showed successful use of CTSEA in 99% of the patients, except for one patient (1%) in whom CTSEA was converted into GA due to severe pain and anxiety. Few adverse events occurred and were managed accordingly. The satisfaction score revealed that 94% of the patients were satisfied.

Conclusion:

CTSEA was a successful anesthetic alternative procedure for LSG surgery.

Keywords: Morbid obesity, Laparoscopic sleeve gastrectomy, Combined thoracic spinal-epidural anesthesia

O-066

COMMON VITAMIN DEFICIENCIES AFTER BARIATRIC SURGERY AND THEIR NUTRITIONAL MANAGEMENT

Nutrition, eating behaviors before and after bariatric surgery

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Background:

Bariatric surgery for long-term treatment of obesity and its associated comorbidities may lead to reduced food intake, sub-optimal dietary quality, altered digestion and absorption and non-adherence to supplementation contribute to risk of vitamin deficiency.

Objective:

To assess the vitamin deficiencies of patients who have undergone Bariatric surgery.

Methods:

Cross sectional study with purposive selection of patients who had undergone bariatric surgery at Asian Bariatrics Hospital, Ahmedabad. Data were elicited on various biochemical parameters and dietary intakes pre and post-operative and analyzed statistically.

Results:

Of the 103 patients who underwent Laparoscopic Sleeve Gastrectomy (LSG) or Gastric Bypass (GB) surgery, 59 were males and 44 females with age range of 25-60 years. The subjects were studied for a year on biochemical parameters (Vitamin-D, Vitamin B-12, Serum Protein, Serum Albumin level, Serum Globulin level, Albumin: Globulin ratio) and diet (via 24-hour dietary recall) for both pre-operative phase and post-operatively over a year. 3 monthly follow up was done where the patients were under strict dietary assistance and nutritional supplementation. They were subjected to a 2 month early post-operative diet (starting from 600Kcal-1000Kcal diet and further as per requirement bringing to 1500Kcal diet) that varied in consistency and gradually the calorie was maintained as per the weight loss and patients need.

The average protein level variation in LSG in a year was marginal, being -0.04g/dl whereas in GB the variation was -0.54 g/dl. Albumin level showed a fall (LSG=1.07 & GB= 2.27g/dl). Further, the variation was also marginally observed in various nutrients like, Vitamin-D (LSG=+37, GB=+44mcg/ml) & Vitamin B12 (LSG=+56, GB=+63 mcg/ml).

Conclusion:

Based on the result, it was shown that although optimal supplement regimens are not yet defined for Indian population, most deficiencies currently can be prevented or treated by consistent and appropriate supplementation.

O-067

COMPARATIVE ANALYSIS BETWEEN SINGLE ANASTOMOSIS DUODENO–ILEAL BYPASS WITH SLEEVE GASTRECTOMY AND BILIOPANCREATIC DIVERSION WITH OR WITHOUT DUODENAL SWITCH. LONG-TERM RESULTS

SADIs

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Introduction:

Biliopancreatic diversion (BPD) traditionally has offered very good weight and metabolic results however, it can present an important consequence as the deterioration of the patient's quality of life mainly due to malabsorption. SADI-S (Single anastomosis duodeno-ileal with sleeve gastrectomy) may be comparable long term results and quality of life with low rate of complications.

Objective:

Compare SADI-S with BPD with or without duodenal switch (DS) and evaluate weight, nutritional long-term results and complications rate.

Methods:

A retrospective historical cohort prospectively collected study was performed matched by propensity score patients who underwent SADI-S and those who underwent BPD. All patients have been operated at Hospital Clínico San Carlos, Madrid. The complete follow-up was 5 years.

Results:

99 patients were included in the study, 49 were operated to SADI-S (A Cohort) and 50 to BPD with or without DS (B Cohort). The mean age of the series was 44,8 years, with a mean BMI of 48,3 kg/m2. Postoperative complications in SADI-S cohort according to Clavien-Dindo classification included 3 (6,1%) patients with grade II and 1 (2%) for BPD. The average hospital stay was 5,9 days for A-Cohort and 12,1 days for B-Cohort. 8 (16,3%) patients consulted emergency department and 7 (14%) patients required hospital admission during the 5 years of follow-up for patients underwent SADI-S. Rate of re-admission in B-Cohort was 50% (25 patients). After 5 years, the BMI of SADI-S cohort was 29,0 kg/m2, while in BPD was 31,2 kg/m2 ($p = 0.058$). The EWL% at 5 years was 85,3% for SADI-S and 71,3% in BPD ($p=0.008$). The TWL% at 5 years between both techniques did not show significant differences (39,2% vs 34,2%, $p=0.061$). The mean number of daily bowel movements over 5 years in the SADI-S cohort was 2, while in BPD it was between 3-4 ($p<0.001$). Triglycerides were significantly lower in SADI-S compared to BPD (78,9 vs. 96,8 $p=0.040$). Statistically significant differences were found between the values of vitamin D ($p=0.036$) and trace elements such as selenium and copper in both cohorts ($p=0.024$ $p<0.001$) for SADI-S. There were no differences between the values of calcium, iron and vitamins A, E and B12.

Conclusion:

SADI-S is considered a valid surgical alternative for obesity providing a weight loss significantly superior to BPD with no weight regain after 5 years, no worsening of nutritional parameters and a lower hospital readmission rate during follow-up.

ORAL ABSTRACTS

O-068

COMPARING LONG-TERM WEIGHT LOSS OUTCOMES BETWEEN LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS, BILIOPANCREATIC DIVERSION, AND SLEEVE GASTRECTOMY: FOLLOW-UP OF 490 PATIENTS

Long-term results (> 10 years)

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Introduction:

Morbid obesity is a well-defined chronic disease, the incidence of which is constantly on the rise. Undoubtedly, surgical treatment of morbid obesity has produced superior outcomes, compared to conventional weight loss measures. Still, there is an identifiable gap in current literature, regarding whether one type of bariatric operation can produce superior, long-term weight loss outcomes compared to others.

Objectives:

Our single-institution, retrospective cohort study aims to evaluate weight loss outcomes at 10 years following Roux-en-Y Gastric Bypass (RYGB), Biliopancreatic Diversion (BPD), and Sleeve Gastrectomy (SG), and assess any underlying correlations between weight loss and type of operation, adjusted for preoperative weight, age and gender.

Methods:

We included all consecutive patients with complete, 10-year follow-up records, operated within our institution. The patients were operated upon, through the years 1995 to 2011. The comparison was done based on the average BMI loss per patient, as well as the percentage of BMI loss at 10 years of follow-up.

Results:

458 patient records from 1995 up to 2011 were included in our study. Of them, 313 underwent RYGB, 49 long-limb BPD, 33 laparoscopic RYGB with
fundus excision, 38 laparoscopic SG, and 25 laparoscopic RYGB as a revision of prior SG. RYGB and BPD were significantly associated with higher percentages of weight loss (37.6% and 37.5%), when compared to SG (Table 1). Multivariate analysis did not show the type of operation to be an independent predictor of weight loss. Preoperative excess weight, younger age and female sex, were all independently associated with superior weight loss outcomes irrespective of type of operation (Table 2).

Conclusions:

Longer follow-up reports are important for the comparison of outcomes between different types of bariatric operations. BPD and RYGB resulted in superior weight loss, but were not independent factors for weight loss.

Table 1: Percentage of Total Weight Loss (%)

	Type of Operation (final)	Percent of Total Weight Loss (%)
N	GBRY	313
	LAP – RYGB – LL with gastric fundus extraction	33
	BPD - LL	49
	LAP – Sleeve Gastrectomy	38
	LAP SG – Redo – LAP RYGB	25
Mean	GBRY	37.6
	LAP – RYGB – LL with gastric fundus extraction	27.4
	BPD - LL	37.5
	LAP – Sleeve Gastrectomy	33.7
	LAP SG – Redo – LAP RYGB	32.1
Standard deviation	GBRY	10.6
	LAP – RYGB – LL with gastric fundus extraction	13.6
	BPD - LL	11.1
	LAP – Sleeve Gastrectomy	9.75
	LAP SG – Redo – LAP RYGB	10.9
Shapiro-Wilk W	GBRY	0.995
	LAP – RYGB – LL with gastric fundus extraction	0.968
	BPD - LL	0.981
	LAP – Sleeve Gastrectomy	0.968
	LAP SG – Redo – LAP RYGB	0.971
Shapiro-Wilk p	GBRY	0.465
	LAP – RYGB – LL with gastric fundus extraction	0.419
	BPD - LL	0.591
	LAP – Sleeve Gastrectomy	0.330
	LAP SG – Redo – LAP RYGB	0.667

Table 2: Model Coefficients - Percent of Total Weight Loss (%)

			95% Confidence Interval			
Predictor	Estimate	SE	Lower	Upper	t	p
Intercept [a]	24.2232	3.7700	16.81116	31.6353	6.425	< .001
Preop Weight	0.0323	0.0185	-0.00405	0.0686	1.747	0.081
Excess Weight (kg)	0.1638	0.0234	0.11780	0.2098	6.999	< .001
Age at appointment	-0.1589	0.0488	-0.25494	-0.0629	-3.254	0.001
Gender:						
F – M	3.0180	1.1553	0.74667	5.2893	2.612	0.009
Type of Operation (final):						
LAP – RYGB – LL with gastric fundus extraction – GBRY	-8.1436	2.1369	-12.344887	-3.9424	-3.811	< .001
BPD - LL – GBRY	0.5576	1.5819	-2.55253	3.6677	0.352	0.725
LAP – Sleeve Gastrectomy –GBRY	-2.0260	1.8794	-5.72099	1.6689	-1.078	0.282
LAP SG – Redo – LAP RYGB – GBRY	-2.1561	2.1529	-6.38884	2.0766	-1.002	0.317

[a] Represents reference level

O-069

COMPARISON OF AUTHOR'S MODIFICATION OF OAGB WITH RUTLEDGE & CARBAJO'S TECHNIQUE FOR BILE REFLUX

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Mini gastric By-pass (MGB)was first described by Rutledge in 1997. The technique proposed by Rutledge consists of End to side anastomosis of the gastric pouch to the jejunum.] This was criticized for the high incidence of bile reflux and nutritional deficiencies. There are some variations to this procedure, in particular, the "anti-reflux afferent limb" and 3.5cm anastomosis, described by Carbajo et al. We adopted and modified the one-anastomosis gastric bypass (OAGB) concept. The variations in our modification include(a) a6-cm long anastomosis, (b) the anti-reflux suture is made 2-3 cm below the OG junction and (c) the BP limb length is tailor-made, 200cm for the morbidly obese and 250cm for the super obese and revision surgeries. Herein is our approach, results, and long-term follow-up (FU).

Objective:

To analyze the results and long-term FU of patients who underwent Laparoscopic OAGB with our modified technique and to compare the bile reflux with patients who underwent Laparoscopic OAGB with techniques proposed by Rutledge and Carbajo.

Method:

In 3 years, 2018-2021, 276 patients underwent Laparoscopic OAGB by the authors modified technique. The patients' clinical data and quality of life was analyzed at 3 months, 6 months and 1 year follow up and biliary reflux was assessed using biliary scintigraphy at 6 months and 1 year follow up.

Results:

In patients who underwent MGB with the original technique, bile reflux was detected in about 20% to almost as high in 80% patients, assessed by bile scintigraphy and endoscopy and gastric biopsies in certain cases. In patients who underwent OAGB with the Carbajo technique, 2 % of patients had bile reflux symptoms and medical treatment was successful. Endoscopy and 24-h pHmetry assessment at 1 year and 18 months were normal for all the patients. In our patients, GI QLI was within the range of normal scores 120 to 125. In bile reflux scintigraphies done in patients who underwent OAGB with our modified technique, Bile tracer activity was detected in 1.2%patients and no patients had bile tracer activity in the oesophagus.

Conclusion:

Our OAGB modification has showed a very low incidence of bile reflux. Symptomatic gastric or oesophageal bile reflux after this modified OAGB has been rare and managed medically. There has been no case of intractable bile reflux, requiring surgery. GIQLI values were within normal range for all patients, and hence, this technique has been made the gold standard at our center.

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O-071

COMPARISON OF LONG-TERM OUTCOME OF PRIMARY AND REVISIONAL SLEEVE GASTRECTOMY AFTER FAILED GASTRIC BANDING: A RETROSPECTIVE, MATCHED CASE-CONTROL STUDY

Sleeve gastrectomy

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Background:

Sleeve gastrectomy (SG) is increasingly used to treat morbid obesity (MO), but its long-term outcome as a primary versus revisional procedure after failed gastric banding is unknown.

Objectives:

To evaluate the long-term outcome of primary SG (pSG) versus revisional SG (rSG).

Methods:

We have created two matched groups: pSG, and rSG, after failed gastric banding (LAGB), with 111 patients in each group, operated between 2006 and 2016 at Assuta Bariatric Centers. rSG was performed for insufficient weight loss or weight regain after LAGB.

Results:

222 patients were included with a female/male ratio of 2/1.1, mean age of 44.9±9.7 years, mean preoperative body mass index (BMI) of 43.4±5.7 kg/m2 with no significant difference between the groups. Mean follow-up time was 9.7±2.8 years for the whole group, 11.6±2.1 years for pSG, and 7.8±2.2 years for rSG ($p<0.001$). Nadir weight was achieved within 15.0±6.4 months. Percentage of excess weight loss (%EWL) was 74.27% for pSG compared with 63.85% for rSG ($p<0.001$). Percentage of excess body mass index loss (%EBMIL) was 77.17% in pSG compared with 69.57% in rSG patients ($p<0.001$). 89.6% of the patients have gained weight after mean time of 3.0±1.9 years. Reasons that patients suggested for their weight regain were mainly: “I did not follow the guidelines” (53.2%), “lack of exercise” (49.1%), “my sleeve was enlarged” (40.5%), “I did not meet the dietitian” (32%). Satisfaction level was 6.6±3.0 on a scale of 1-10, and 51.4% would re-choose SG again. 52 (23.4%) of patients had Type 2 Diabetes Mellitus (T2DM) before their SG, and it was either resolved or improved in 92.3% of them without significant difference between the groups.

Conclusion:

Among patients with MO, there was a significant difference in excess weight loss and excess BMI loss between pSG and rSG at a long follow-up after surgery. Still, both groups enjoyed either resolution or improvement in T2DM.

O-072

COMPARISON OF REMISSION OF T2D IN THE SHORT TO INTERMEDIATE TERM BETWEEN SLEEVE GASTRECTOMY AND ROUX-EN-Y GASTRIC BYPASS

Type 2 diabetes and metabolic surgery

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Background:

Morbid obesity and type-2 diabetes mellitus (T2D) are both major public health problems. Bariatric surgery is gaining more and more acceptance as an alternative long-term treatment to lifestyle changes and medical treatment for both obesity and T2D. There is heterogeneity in the reported outcome comparing the remission rate of T2D after sleeve gastrectomy (LSG) and Roux-en-Y gastric bypass (RYGB) in the short, intermediate, and long term.

Objective:

To compare the remission rate of T2D based on the 2009 American diabetic association (ADA) criteria after LSG and RYGB in the short to intermediate term.

Methods:

A retrospective review was done from a prospectively maintained database of patients who had various bariatric operations between January 2010 and October 31, 2014, at our Center. Patients who had undergone an LSG or RYGB and also had T2D were identified. Data on age, sex, body mass index (BMI), C-peptide level, initial weight, and weight at 1, 3, and 5-year intervals, and comorbidities were collected. Especially, data on hemoglobin A1c (A1c) levels for each patient before the operation and at 1, 3, and 5-year intervals were collected. Only patients with complete five-year follow up data were included in the analysis. Remission of T2D based on the 2009 ADA criteria was determined and analyzed.

Results:

3864 patient records with bariatric surgery were reviewed. 502 patients with T2D who had either LSG (247) or RYGB (255) with complete five years follow up were identified. More male patients were in the RYGB group ($p=0.001$) while there were more older age patients in the LSG group ($p=0.001$). The average pre-operative C-peptide level was significantly higher in the LSG group ($p=0.001$) as compared to the RYGB group. Whereas the average pre-operative A1c level was significantly lower in the LSG group ($p=0.001$) as compared to the RYGB group. At the 1-year interval, the complete T2D remission rate was similar in both groups. At the 3-year interval, the complete T2D remission rate was significantly higher in the RYGB group. At the 5-year interval, the complete T2D remission rate was again similar in both groups. There was a significant correlation between T2D remission and the percent total weight loss (%TWL).

Conclusion:

In this study that focused mainly on the effects of the LSG and RYGB operations on T2D remission, we found that RYGB had a significantly higher rate of complete remission compared to LSG only at the 3-year mark.

O-073

COMPARISON OF THE ROBOTIC SYSTEM AND LAPAROSCOPY WITH REGARDS TO VALUE IN HEALTH CARE DELIVERY IN DE NOVO SLEEVE GASTRECTOMY PATIENTS

Robotic bariatric surgery

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Background:

Value in health care has become the main metric for health care delivery and is defined as (desired outcome)/costs. There is continued increase in use of the robotic system for sleeve gastrectomy (SG) even in patients without prior foregut surgery. Although the robotic system has significant benefits in urology, gynecology, and hard-to-reach areas where multiple degrees of articulation are required, the superiority of the robot has not been shown in bariatric surgery, especially laparoscopic SG (LSG).

Objectives:

The aim of this study is to compare robotic sleeve gastrectomy (RSG) and LSG in terms of value in health care for patients undergoing de novo SG.

Methods:

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was queried for patients undergoing de novo SG from 2015 to 2018. Concurrent procedures were recorded to adjust for operating room (OR) utilization. Logistic regression models were used to evaluate perioperative outcomes of 30-day mortality, readmission, leak, intensive care unit (ICU) admission, conversion to open, intubation, pneumonia, sepsis, and pulmonary embolism (PE). Linear regression models were used to evaluate OR time, hospital stay, and transfusion requirement.

Results:

We identified 457,837 patients, of which 419,905 (91.72%) underwent LSG and 37,932 (8.28%) RSG. Rate of RSG increased from 6.86% to 10.43% in the study period. After correcting for confounders, no difference was seen in 30-day mortality (p=0.435), hospital stay (p=0.113), leak rate (p=0.228), transfusion requirement (p=0.127), readmission (p=0.671), ICU admission (p=0.467), sepsis (p=0.314,) myocardial infarction (p=0.221), conversion to open (p=0.733), or PE (p=0.563). Linear regression showed increased operative time for RSG compared to LSG (68.2 min vs 98.8 min, p<0.001).

Conclusion:

This is the largest study to date evaluating outcomes following LSG and RSG. Compared to LSG, RSG is associated with similar perioperative outcomes but prolonged operative time, even after correcting for conversion to open and concurrent procedures. This study suggests that for de novo SG, the robotic system has no advantage in terms of outcomes with a possible increase in OR utilization and costs. Because the robotic approach failed to show increased value in de novo SG patients, the use of such a significant technological resource should be considered carefully in this patient group.

O-074

COMPLETE STAPLE LINE REINFORCEMENT DURING LAPAROSCOPIC SLEEVE GASTRECTOMY REDUCES POSTOPERATIVE MORBIDITY: A PROPENSITY SCORE MATCHED ANALYSIS

Perioperative management

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Background:

Two feared complications of laparoscopic sleeve gastrectomy (LSG) are bleeding and staple line leak. Both can lead to significant morbidity, and even death. Any technique reducing the likelihood of these complications would be of tremendous benefit.

Objective:

To evaluate the safety and efficacy of complete staple line buttressing coupled to perioperative arterial hypertension control to minimize perioperative complications in severely obese patients undergoing LSG.

Method:

Data from consecutive patients who underwent LSG in our department (2010-2019) were prospectively collected and retrospectively analyzed. Patients were divided into two groups: i) complete staple line buttressing (Seamguard® bioabsorbable staple line reinforcement, GORE, Arizona, UNITED STATES) and use of perioperative arterial control hypertension protocol (systolic pressure <140mmHg); ii) complete absence of buttressing with arterial hypertension control if systolic pressure >160mmHg without use of specific protocol. Data of interest were patients' characteristics, intraoperative results, postoperative course and follow-up. Propensity score adjustment was performed on the factors known to influence postoperative complications after LSG.

Results:

439 patients were matched in each group. Mean age was 41.7 and 40.7 years for buttressing and non-buttressing groups, respectively (p=NS). Mean BMI was 42.5kg/m2 for buttressing group versus 42.2kg/m2 for non-buttressing (p=NS). Mean operative time was significantly reduced when buttressing was used (84 versus 104 minutes; p<0.001). Mean blood loss was similar, despite presence of a more hemorrhagic staple line without buttressing. Postoperative hemorrhage/hematoma was noted in 17 patients in the non-buttressing group versus none in buttressing group (p<0.001). No statistically significant difference was noted for staple line leak, with 6 patients (1.4%) developing staple line leak in the buttressing group versus 15 (3.4%) in the non-buttressing group (p=0.07). Reoperation was required for 2 patients (0.4%) in the buttressing group versus 24 patients (5.5%) in the non-buttressing group (p<0.001). Mean weight loss at 1 year was similar between groups (p=0.26).

Conclusion:

The use of staple line buttressing coupled to perioperative arterial hypertension control leads to significant reduction of bleeding and reoperation rates, as well as non-significant reduction of staple line leak rates in severely obese patients undergoing LSG.

O-075

COMPLICATIONS AFTER BARIATRIC SURGERY: ARE WE ABLE TO PREDICT THEM

Endoscopic and percutaneous interventional procedures

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Introduction:

Bariatric surgery was proven to be effective and safe obesity treatment. Still, obesity-related comorbidities contribute to the occurrence of complications after intervention. Preoperative assessment of possible outcomes seems to be crucial for surgeons in qualification process and perioperative care. Over past decade various tools predicting complications after bariatric surgery has been proposed.

Objective:

We aimed to validate the performance of available risk prediction models as the predictors of complications occurring 30 days after bariatric procedure.

Method:

The retrospective analysis included patients who underwent Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG) in our hospital. The literature review was done to identify available risk stratification models. The score or odds of postoperative complications were calculated for each patient. Postoperative complications were defined as any deviation from the normal postoperative course within 30 days. The relationship between predicted and actual outcomes were assessed by logistic regression analysis. Discrimination was evaluated by area under the receiver operating characteristic (AUROC) whereas calibration by Hosmer–Lemeshow test.

Results:

Out of 1250 patients enrolled in our study 817 (65.36%) were women whereas 433 (34.64%) were men with mean age 43 years. 73.84% of patients underwent SG whereas 26.16% had RYGB. The most common comorbidities were hypertension (67.04%), diabetes (31.28%) and obstructive sleep apnea (29.04%). Postoperative complications occurred in 9.52% of patients.

Literature review identified eight models, three scoring systems including MBSAQIP Calculator, BASIC Score, Recife Score and five regression equations proposed by Livingston, Gupta, Finks, Maciejewski and Aminian. In logistic regression analysis five of them (MBSAQIP Calculator, Gupta, Finks, Maciejewski, Aminian) had significant capability of identifying complications (OR: 1.06-1.21). Although, none of assessed models reach reasonable discrimination power (AUROC: 0.54-0.62), they did not lose their goodness-of-fit in Hosmer–Lemeshow test (p=0.05-0.78).

Conclusion:

There are several tools which seem to be helpful in preoperative assessment of possible complications after bariatric surgery. Further studies should focus on improving predictive accuracy of available models.

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O-076

COMPLICATIONS RATE VARIABILITY AFTER BARIATRIC SURGERY AND THE IMPORTANCE OF STANDARDIZATION OF A REPORTING SYSTEM

Endoscopic and percutaneous interventional procedures

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Complications rate variability after bariatric surgery and the importance of standardization of a reporting system

Introduction:

Early complications (<30 days) rate following bariatric surgery have been reported between 1% and 9%. Serious adverse events decrease with time and experience, but controversy still exists on how they should be reported. Despite recommendations on how complications should be reported, heterogeneity is present throughout literature, leading to an important bias.

Objectives:

To identify the different incidence of early complications based on the classification used to report them.

Methods:

Retrospective review of a prospectively collected database including patients submitted to bariatric surgery at a single institution. An analysis to identify any event that deviates from a "normal" postoperative course in the first 30 days was performed and classified as a complication (major/minor). A comparative analysis was performed including other five models used in bariatric surgery literature (modified Clavien-Dindo, Longitudinal Assessment of Bariatric Surgery [LABS], Bariatric Surgery Centers of Excellence [BSCOE], American Society for Metabolic and Bariatric Surgery [ASMBS] and Li et al [major/minor]). Only patients submitted to Sleeve Gastrectomy (SG) and Gastric Bypass (GBP) were included.

Results:

The analysis included 788 patients (83.7% GBP). In 8.9% of cases there was a deviation of a "normal" postoperative course. After applying the five classifications, the following global morbidity was observed: Clavien-Dindo 8.9%, LABS 2.3%, BSCOE 0.4%, ASMBS 9.9% and Li et al 11.2%. Incidence of major/severe/adverse outcomes were: Clavien-Dindo 2.4%, LABS 2.3%, BSCOE 0.4%, ASMBS 6.9% and Li et al. 9.2%. Incidence of minor complications were: Clavien-Dindo 6.5%, ASMBS 3% and Li et al. 2%. There was no mortality.

Conclusion:

There is an important heterogeneity reporting early complications after bariatric surgery. After applying five different classifications within the same cohort, a wide range of overall and major complications was observed. Standardization is mandatory to avoid bias when adverse events are reported. Stricter classifications are advised, since more accurate information can be delivered.

Table 2: Patient's with deviation from "normal" course

Patients with deviation from "normal" course	
n=788	n (%)
Gastrointestinal bleeding (requiring transfusion)	11 (1.4)
Gastrointestinal bleeding (without transfusion)	7 (0.9)
Intra-abdominal bleeding (requiring transfusion) + surgical site infection	1 (0.2)
Intra-abdominal bleeding (requiring transfusion) + infected intra-abdominal abscess requiring laparoscopic drainage	1 (0.2)
Intra-abdominal bleeding (requiring early reoperation	2 (0.3)
Clostridium difficile infection	2 (0.3)
Atrial fibrillation (requiring ICU admission)	1 (0.2)
Deep vein thrombosis	1 (0.2)
Gastro-jejunal stenosis (requiring dilation)	5 (0.7)
Incarcerated umbilical hernia (requiring urgent intervention)	2 (0.3)
Atelectasis	5 (0.7)
Urinary tract infection	2 (0.3)
Infected sub-diaphragmatic hematoma requiring laparoscopic drainage	1 (0.2)
Infected sub-diaphragmatic hematoma requiring percutaneous drainage	1 (0.2)
Fever of unknown origin (requiring readmission for diagnostic approach)	1 (0.2)
Trocar-site infection	5 (0.7)
Thrombophlebitis	1 (0.2)
Gastro-jejunal leak/fistula (conservative managment)	13 (1.7)
Gastro-jejunal leak/fistula (requiring re-operation)	2 (0.3)
Gastro-jejunal leak/fistula (requiring percutaneous drainge)	1 (0.2)
Dehydration (requiring readmission)	1 (0.2)
Post-surgical pneumothorax (requiring pleurostomy)	1 (0.2)
Gastroenteritis (requiring readmission for fluid therapy)	1 (0.2)
Twisted gastric sleeve with obstruction (requiring endoscopic dilation)	1 (0.2)
Proximal sleeve perforation (requiring laparoscopic lavage and drainage)	1 (0.2)
Total	**70 (8.9)**

Table 1: Patient's Demographics

Patients' Demographics	
	n (%) ±SD
Total patients; n	788
Female Sex; n(%)	636 (80.7)
Age; years (±SD)	38.8 ±9.7
Weight; kg (±SD)	115.2 ±21.5
BMI; n (±SD)	43.9 ±7.8
Gastric bypass; n (%)	660 (83.8)
T2DM; n (%)	174 (22.1)
Hypertension; n (%)	307 (38.9)
Dyslipidemia; n (%)	331 (42)
Operative time; min (±SD)	154.5 ±37.5
Hospital stay; days (±SD)	3 ±0.8
Conversion to open; n (%)	1 (0.2)
Reoperation; n (%)	9 (1.1)
Deviation from 'normal' course. n (%)	70 (8.9)

BMI= Body Mass Index, T2DM= Type 2 Diabetes Mellitus

O-077

CONTINUOUS REMOTE MONITORING WEARABLE DEVICES IN PATIENTS UNDERGOING BARIATRIC SURGERY: A FEASIBILITY STUDY

Emergent technology, new non standard and bariatric surgery

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Introduction:

Early recognition of complications and deteriorating patients post laparoscopic surgery may be recognised through continuous, remote vital sign monitoring using wearable devices. This study aimed to determine the acceptability and precision of a wearable multi-parametric monitoring device for patients undergoing bariatric surgery.

Methods:

A pilot prospective cohort study was undertaken at our bariatric unit in London, UK. The wearable device continuously measured the following parameters: heart rate (HR), temperature, respiratory rate (RR) and oxygen saturation. Accuracy was measured by comparing sensor readings with observations taken on the ward whilst participants were inpatients, and acceptability was measured by daily usage and a patient satisfaction questionnaire.

Results:

12706 sensor and 221 nurse readings were obtained from eight patients. Mean length of use was 7.0±1.5 days at an average of 104.7 hours per patient. High satisfaction scores were recorded from participants. The agreement was high in HR (mean bias -0.3 bpm, 95% limits of agreement (LOA) -7.5 bpm – 6.9 bpm), moderate in RR (median bias 0.0 breaths/min, 95% LOA -5.5 – 13.2 breaths/min), poor in temperature (mean bias -1.9°C, 95% LOA -5.5°C – 3.3°C) and poor in oxygen saturation (median bias -2.0%, 95% LOA -19.8% – 3.5%).

Conclusions:

The device was well-received by all patients and reliably measured HR, but not any other observation. Despite the potential of remote monitoring devices, acceptability and accuracy must be further assessed in bariatric populations before widespread implementation.

O-078

CONVERSION OF ONE-ANASTOMOSIS GASTRIC BYPASS TO ROUX-EN-Y GASTRIC BYPASS FOR BILIARY REFLUX: WHO RISKS MORE? A MULTICENTER STUDY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Among the different factors that have slowed the diffusion of the one-anastomosis gastric bypass (OAGB), the risk of postoperative biliary reflux certainly occupies an important place. The treatment of choice in case medications and dietary behavior changes do not work, remains the conversion of the OAGB into LRYGB.

Objectives:

The purpose of this multicenter study was to analyze the characteristics of patients who have been converted to Roux-en-Y gastric bypass (RYGB) and to understand whether there are patient populations that are more at risk than others.

Methods:

This is a retrospective multicenter study which included all patients operated on for OAGB and subsequently converted to LRYGB for severe biliary reflux and marginal ulcer not responding to medical treatment.

Result:

In total, 126 patients operated on for conversion of OAGB to RYGB for biliary reflux not responding to conservative treatment were enrolled. Among these 14 patients also presented a marginal ulcer. The analysis of patient characteristics showed that 52.6% of patients (n. 66) had a previous history of restrictive bariatric surgery (gastric banding; sleeve) and in particular 85% of these had had a gastric banding. Preoperative examinations and direct laparoscopic vision allowed to show the presence of a hiatal hernia in 56 patients (44.7%). The ""antecedent bariatric surgery-hiatal hernia"" association was present in 26.2% of patients (33). Other endoscopic findings demonstrated the presence of bile in the gastric pouch in 100% of patients, a marginal ulcer in 14 patients (11.6%), Barrett's esophagus in 5 patients (3.9%), stage A-B esophagitis in 74 patients (58.7%), stage C esophagitis in 17 patients (13.7%), while in the remaining 30 (23.8%) patients, no signs of esophagitis were found at endoscopy. The conversion into LRYGB allowed the complete resolution of the symptoms in 109 patients (86.3%) while in the remaining 17 (13.7%) the symptoms persisted, even if improved and the patient continued to take a low dose of PPI.

Conclusion:

The analysis of patients showed that a high percentage of converted patients had phenomena that weakened the cardiac area, facilitating incontinence and reflux. In particular, the presence of a hiatal hernia or previous gastric banding are factors that make conversion to LRYGB more likely. Probably a preoperative manometry in such patients could have identified those most at risk of developing postoperative biliary reflux and thus directed them LRYGB rather than OAGB.

O-079

CONVERSION OF SLEEVE TO BYPASS FOR REFLUX: CAN WE RELY ON PRE-OPERATIVE INVESTIGATIONS?
GERD and bariatric surgery

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Background:

There is increasing evidence that laparoscopic sleeve gastrectomies (LSG) are associated with de novo reflux, with revisional Laparoscopic Roux-en-Y Bypass (rLRYGB) often used to manage this sequalae. However, the radiological and endoscopic criteria that may predict successful resolution of symptoms remain unclear. In our unit it is routine practice to repair a hiatus hernia if found at the initial LSG.

Objective:

To describe the pre-operative findings and sleeve morphology in patients who undergo revisional surgery for reflux.

Method:

Retrospective analysis of all rLRYGB for reflux carried out in our tertiary unit following a LSG between 2010-2018.

Results:

During this period 794 LSG were carried out, of which 32 (4.0%) underwent rLRYGB for reflux (31 female vs 3 male, BMI before LSG 49.7 kg/m2, median time between LSG and rLRYGB 31 months (IQR 25 – 53.3)). Of the revisional patients, only 3 had a HH found at the initial LSG.

Before the rLRYGB, 12 patients had a normal barium swallow. A sleeve stricture (n=4), HH (n=13), reflux (n=4) and/or oesophageal dysmotility (n=1) were described in the rest. Nine patients had a normal OGD, with the remaining demonstrating a HH (n=15), sleeve stricture (n=5) and/or oesophagitis (n=9). Overall, 6 patients had a normal OGD and barium swallow.

At the rLRYGB, an abnormality of the sleeve was found in 27 patients which included HH (n=19), stricture (n=5) patients, and/or dense adhesions (n=2). Following rLRYGB, all but one patient described resolution of reflux symptoms.

Conclusion:

A prerequisite of an abnormal radiological or endoscopic examination following LSG may preclude a number of patients with reflux who would benefit from rLRYGB.

Table 1: Baseline Characteristics

Characteristics	N=54
Age (years, mean (SD))	54.8 ± 11.7
Female (n (%))	49 (90.7)
Weight at RYGB (kg, mean (SD))	126.3 ± 27.4
BMI at RYGB (kg/m2, mean (SD))	45.7 ± 10.5
Weight at nadir (kg, mean (SD))	81.1 ± 18.6
BMI at nadir (kg/m2, mean (SD))	29.5 ± 6.5
Weight at EndoFLIP (kg, mean (SD))	98.6 ± 23.8
BMI at EndoFLIP (kg/m2, mean (SD))	35.9 ± 8.8
% Weight regain from nadir (kg, mean (SD))	44.8 ± 55.8
Time from RYGB in years (median (IQR))	11.3 (2.9-14.8)
Indication for EndoFLIP	
Weight Regain	26 (48.1)
Dysphagia	15 (27.8)
Other	13 (24.1)

Abbreviations: RYGB: Roux-en-Y gastric bypass; BMI: body mass index; IQR: interquartile range

O-080

COST EFFECTIVENESS OF SHORT STAY SLEEVE GASTRECTOMY AND WALK-IN HYDRATION CLINIC VS CONVENTIONAL INPATIENT CARE

Sleeve gastrectomy

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Introduction:

COVID-19 has placed a significant strain on the healthcare system. To channel resources into managing the pandemic, most surgical societies, including bariatric surgery, have adopted a strategy of postponing elective surgery. However, with extension of the pandemic, the current policy of delaying all elective surgery will not be sustainable. One method to minimize resource utilization for elective cases is to maximize the use of Short Stay Unit (SSU). SSU manages planned surgery requiring admission up to 24 hours. There is mounting evidence that this model improves access to surgical services in terms of both operating theatre and bed utilization. However, no study has quantified the cost savings of SSU. Another initiative in our institution to reduce readmission rates in the post-COVID 19 era is the walk-in hydration clinic.

Objectives:

We evaluate the cost effectiveness of SSU versus inpatient management following LSG in our institution since resuming bariatric surgery in the post COVID-19 era. We also compared the 30-day readmission rates after LSG pre and post opening of the walk-in hydration clinic and quantified the cost savings.

Methods:

This is a prospective, non randomized study of all consecutive cases undergoing LSG as SSU from December 2021 to March 2022. Each patient in the SSU LSG group was manually paired by age, gender, BMI, comorbidities with one patient undergoing LSG as an inpatient procedure. The primary endpoint of the study was the economic impact of performing LSG as SSU versus inpatient management. 30-day readmission rates during the 12 months before and after establishment of the hydration clinic and the associated cost savings were also investigated.

Results:

SSU was significantly more cost effective per patient than was inpatient surgery ($p<0.01$). Cost savings were due to decreased length of stay and lower bed and nursing cost. 30-day readmission rate dropped from 8.9% to 1.8% after opening the hydration clinic ($p<0.01$) with decreased 30-day readmission cost (S$96,955.57 vs. S$5,910.27, $p<0.01$).

Conclusion:

Based on previous findings that SSU and inpatient surgery result in equivalent clinical outcomes, SSU for LSG is cost effective and should be preferred to inpatient management. Hydration clinics reduce post LSG readmission rates and result in tremendous cost savings. It can be considered for institutions looking to resume bariatric surgery in the post COVID-19 era with minimal impact on clinical capacity.

O-081

COVID-19 SEVERITY IN POST BARIATRIC PATIENTS

Basic science and research in bariatric surgery

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Introduction:

As COVID-19 pandemic has unfolded over the world in the last 15 months, Obesity, and metabolic illnesses such as Diabetes and Hypertension have been identified as risk factors for developing severe disease and death in many reports and studies.

Whether the decrease in BMI and the improvement of metabolic conditions are protective factors or not is a matter of debate, but it seems plausible that improvement of ventilatory function and other coo morbidities as a result of Bariatric and metabolic procedures also reduces the risk of covid complications and COVID related deaths.

Objective:

To study the incidence and severity of COVID infection among patients who underwent bariatric surgery before, and to determine if the reduction in BMI as well as resolution of any coo morbidities could be a protective factor for these patients.

Methods:

We reviewed the medical records of patients who underwent bariatric surgery in our unit between January 2011 and Dec 2019 and who had developed a COVID infection in the last year. We collected data regarding the estimate weight loss, type of surgery, resolution of coo morbidities. Among those with positive COVID, we studied severity, hospital stay, ICU admission and mortality as well as other covid related complications (neurological, DVT, bleedings, etc). We also did a questionnaire regarding the incidence of infection among direct family or close contacts regarding severity and deaths.

Results:

We reviewed the files of 1511 who received underwent bariatric surgery in our unit. The demographic distribution of these patients was reviewed, together with weight, BMI and excess weight loss (EWL). 147 Patients who developed a positive COVID infection, confirmed by a PCR test, were identified. We reviewed their medical records regarding the infection severity and contacted them by phone interview; All of the patients had only a mild or asymptomatic infection needing only supportive treatment. None of the patients required ICU admission and no mortality was reported among them.

Conclusion:

Bariatric surgery with adequate excess weight loss and improvement of metabolic disease seems to reduce the risk of complications of COVID infection, it may decrease the risk or severe disease as well as ICU admission and mortality. Further prospective studies can avail these results.

O-082

COVID-19 AND DECISION FOR BARIATRIC SURGERY: A PARADOX SYNERGY INTO PANDEMIC CONDITIONS

Behavioral, psycho-social, and environmental predictors of bariatric surgery outcomes

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Background / Introduction:

The worldwide pandemic ruffle of the COVID-19 has many influences on health-related decision-making due to the quarantine. The persons with obesity as a part of vulnerable group of population had to cancel all the medical procedures ongoing to bariatric surgery and stay at home without a perspective concerning their schedule of surgery. After a first lecture of the real power of the COVID-19 to delay the bariatric surgical procedures, the data shows a paradox augmentation of demands by bariatric patients to proceed in bariatric surgery against the restrictions during the pandemic conditions.

Objectives:

The aim was to understand the contribution of the COVID-19 on the decision and proceed in bariatric surgery during the pandemic conditions. Especially, the objective was to identify the role of the quarantine (facilitator or inhibitor) in relation with the final decision for bariatric surgery.

Methods:

For this purpose a qualitative phenomenological methodology was used by analyzing with thematic analysis the data provided from pre-bariatric patients. Clinical Health Interviews with open-ended semi-structural questions used to gather data about the role of the quarantine on the motivation and empowerment of this patients to decide a bariatric surgery. The sample (n=40) was organized in three seasons of interview at Thessaloniki, Greece. The first season for building trust and intimacy and the second and third for gathering information in depth.

Results:

According to the gathered data, the patient's identify the role of the quarantine as facilitator and moderator. In addition, the pandemic conditions impulse the patients to renewing their motivation for bariatric surgery. This synergy between COVID-19 and decision-making for surgery can be explain by two variables: The first was the fear and stress among bariatric patients to be affected by complications due to the COVID-19 (hospitalization, intensive care, risk to death, costs of rehabilitation, organic synergies with subsequent diseases and obesity, long-life handicaps, cumulative future vulnerability) and the second one was the desire to avoid been labeled as member of a vulnerable group of population and possible victim with fatal consequences not only on the current pandemic ruffle, but also in the future ones. The major concern was to early prevent and to make a decision which will weaken the impact of the pandemic on morbid obesity and reduce the stress and the health-related risks. The participants report that during the quarantine they found out that they gained weight and the BMI changed because of the staying at home, eating and spend the time without physical activity. Emotional connections with the COVID-19 as facilitator was the sense of responsibility face to siblings, the fear of death, the quilts concerning untreated obesity, the emotional insecurity face to the unknown and the promising feeling of freedom after the bariatric surgery.

Conclusions:

For patients who have already decided to undergo obesity surgery before the pandemic ruffle, the pandemic was an additional motivation strengthened by the promising post bariatric quality of life, the safety and the future protection against virus and others pandemic. The declassification from vulnerability who offer the bariatric surgery by the loss of weight and the integration of these patients into the normal ones was a psychological variable to reinforce their final decision. The role of the COVID-19 was unexpected and surprisingly facilitator and the bariatric patients who invested positive emotions and expectations in this synergy became empowered and not confused or hesitated for their final decision to be safe and healthy.

O-083

DECISION REGRET AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY: A 5-YEAR PERSPECTIVE

Sleeve gastrectomy

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Introduction:

Patient's satisfaction after weight loss surgery is in the research spotlight. However, there are still no quantitative data regarding whether patients regret their decision to undergo laparoscopic sleeve gastrectomy (SG).

Objective:

The present study aimed to evaluate whether patients regret their decision to undergo SG 5 years after surgery. The secondary objective was to identify whether weight loss and a higher quality of life (QoL) score correlate with the regret expressed by patients.

Setting: Military Hospital, Poland

Method:

A telephone survey was carried out among patients 5 years after surgery. Patient satisfaction regarding their decision to undergo SG was assessed using the Decision Regret Scale. QoL scores were determined using the 36-Item Short Form Survey (SF-36).

Results:

One hundred and four patients who answered a full telephone survey were enrolled in the study. Change in body mass index (ΔBMI) was 12.31±6.2, excess body mass index loss (%EBMIL) was 55.45%±25.52%, and percent total weight loss (%TWL) was 25.20%±11.7%. At the 5-year postoperative telephone survey, the mean general health score was 50.96±14.0 and the mean regret score was 32.33±13.24 (range, 25–85). A statistically significant negative correlation was observed between %EBMIL and regret score ($r=-0.435$; $p<0.001$). There was a significant negative association between regret score and energy/fatigue QoL ($r=-0.205$; $p=0.040$). Only eight patients (7.69%) scored >50 on the Decision Regret Scale, which was considered to represent overall regret for their decision.

Conclusion:

Our study suggests that, in general, patients did not regret their decision to undergo SG.

Keywords: Laparoscopic sleeve gastrectomy,; Regret score, Quality of life, Weight loss

O-084

DEFINING GLOBAL BENCHMARKS IN ELECTIVE SECONDARY BARIATRIC SURGERY COMPRISING CONVERSIONAL, REVISIONAL AND REVERSAL PROCEDURES

Registries and quality in bariatric surgery

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Objective:

Management of poor response and of long-term complications after bariatric surgery (BS) is complex and under-investigated. Indications and types of reoperations vary widely, and postoperative complication rates are higher compared to primary BS. Benchmarking uses best performance in a given field as reference point for improvement. Our aim was to define "best possible" outcomes for elective secondary BS.

Method:

The establishment of benchmarks in secondary BS followed a standardized methodology, based on recommendations of a Delphi consensus panel of experts. This multicenter study analyzed patients undergoing elective secondary BS in 18 high-volume centers on 4 continents from 06/2013 to 05/2019. Twenty-one outcome benchmarks were established in low-risk patients, defined as the 75th percentile of the median outcome values of the centers. Benchmark cases had no: previous laparotomy, diabetes, sleep apnea, cardiopathy, renal insufficiency, inflammatory bowel disease, immunosuppression, history of thromboembolic events, BMI>50 kg/m2 or age>65 years (Table 1). Descriptive statistics, multivariate logistic regression and data visualization were performed using the R software.

Results:

Out of 44'884 elective bariatric procedures performed in the participating centers, 5'328 secondary BS cases were identified (Fig. 1). The benchmark cohort included 3143 cases, mainly females (85%), aged 43.8±10 years, 8.4±5.3 years after primary BS, with a body mass index 35.2±7kg/m2. Main indications were insufficient weight loss (43%) and gastro-esophageal reflux disease/dysphagia (25%) (Fig. 2-3). 90-days postoperatively, 14.57% of benchmark patients presented ≥1 complication, mortality was 0.06% (n=2) (Fig. 4). Significantly higher morbidity was observed in non-benchmark cases (OR 1.36) and after conversional or revisional procedures with gastrointestinal suture/stapling (OR 1.7). Benchmark cutoffs at 90-days postoperatively were ≤5.8% re-intervention and ≤8.8% re-operation rate (Table 2). At 2-years (IQR 1-3) 15.6% of benchmark patients required a reoperation.

Conclusion:

Secondary BS is safe, although postoperative morbidity exceeds the established benchmarks for primary BS. The excess morbidity is due to an increased risk of gastrointestinal leakage and higher need for intensive care. The considerable rate of tertiary BS warrants expertise and future research to optimize the management of non-success after BS.

Table 1. Criteria used to identify participating centers and "benchmark" cases

Center inclusion criteria	Low-risk patient criteria ("benchmark")	High-risk patient criteria ("non-benchmark")
Annual caseload ≥ 150 bariatric operations (every year between 2013-2019), out of which >40 cases/year performed by the same surgeon	Age 18-65 years	History of laparotomy
Available prospective bariatric database	American Society of Anesthesiologists (ASA) score < IV	Cardiovascular disease (e.g. cardiac arrhythmia, stroke, coronary artery disease)
Interest in bariatric outcomes, documented by ≥1 publication(s) on bariatric surgery	Preoperative BMI < 50 kg/m^2	History of thromboembolic events and/or therapeutic anticoagulation
"Clinical excellence" or national reference centers with a dedicated bariatric multidisciplinary team (including endocrinologist, gastroenterologist, access to intensive care unit and interventional radiology)	Absence of any high-risk patient criteria listed in the next column	Diabetes mellitus (Type 1 and Type 2, as defined by the American Diabetes Association)
≥2 board-certified surgeons perform bariatric surgery within the center Ability to offer ≥2 primary bariatric procedures and revisional bariatric surgery		Obstructive sleep apnea (recurrent episodes of upper airway collapse during sleep)
		Chronic obstructive pulmonary disease (FEV1/FVC<0.7)
		Chronic kidney disease (eGFR < 30ml/min/1.72 m^2)
		Inflammatory bowel disease (ulcerative colitis, Crohn's disease)
		Immunosuppression therapy (ie,.: steroids, calcineurin inhibitors, etc)

Table 2. Benchmark Cutoffs for Secondary Bariatric Surgery (75th Percentile of Centers' Median). *ICU: Intensive care unit, CD: Clavien-Dindo classification, CCI: Comprehensive Complication Index, GERD: gastro-esophageal reflux disease*

Perioperative course			
Operation duration	< 103 min		
Conversion to open surgery	≤ 2.5%		
Intraoperative blood transfusions	0%		
Postoperative blood transfusions	≤ 2.3%		
Postoperative ICU admission	≤ 2%		
ICU stay in patients admitted to ICU	≤ 5 days		
Hospital stay	< 4 days		
Morbidity and Mortality	**Until Discharge**	**Until 30-d**	**Until 90-d**
Uneventful postoperative course	≥ 90%	≥ 80%	≥ 76.5%
Reintervention (CD IIIa)	≤ 1.4%	≤ 2.5%	≤ 5.8%
Reoperation (CD IIIb)	≤ 2.9%	≤ 6.8%	≤ 8.8%
Any complication	≤ 10.3%	≤ 20.2%	≤ 23.5%
Mortality	0%	0%	0%
CCI In patients with at least 1 Clavien–Dindo Grade ≥II complication	≤ 37.1	≤ 37.1	≤ 37.1
Signature complications:			
Anastomotic leak	≤ 3.3%	≤ 5.1%	≤ 5.7%
Stenosis of the anastomosis	0%	≤ 0%	≤ 1.2%
Postoperative bleeding	≤ 2.3%	≤ 2.3%	≤ 2.3%
Small bowel obstruction/internal hernia	≤ 0.6%	≤ 2.1%	≤ 2.5%
Wound, urinary and other infection	≤ 1.1%	≤ 3.3%	≤ 3.8%
Marginal ulcer / GERD	0%	0%	0%
Cardiovascular or pulmonary complications	≤ 0.8%	≤ 1.3%	≤ 1.3%
Abdominal or osteo-articular pain	≤ 0.1%	≤ 1.2%	≤ 2.2%

O-085

DEFYING THE ODDS: A NATIONWIDE PERSPECTIVE OF METABOLIC AND BARIATRIC SURGERY AMIDST THE COVID-19 PANDEMIC

Registries and quality in bariatric surgery

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Background:

The very first four published cases of the novel Coronavirus Disease (COVID-19) were reported on December 29, 2019. Two days after, Taiwan immediately started screening all passengers for fever, respiratory symptoms, and contact history, a very simple and prompt response to what was then a brewing crisis. More than a year after, COVID-19 has infected more than 151 million people causing 3.17 million deaths with the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) recommending postponement of all elective Metabolic and Bariatric Surgeries (MBS) worldwide as early as April 2020. Taiwan remarkably was spared of these pandemic consequences experienced elsewhere.

Method:

In this study, we review and share the step-by-step preparations and valuable healthcare policies and protocols made by Taiwan against COVID-19 accompanied by a robust algorithm for patients and healthcare workers. We performed a retrospective review and analysis of all elective MBS done in the whole country for 2019 and 2020.

Results and Discussion:

Based on the nationwide census during the year 2020, a total of 3130 patients still underwent elective bariatric and metabolic operations, compared to the 2019 nationwide data, Taiwan only had a 4% decline (3271/141 elective operations). There was no significant difference in mortality and re-admission rate with 30 days post-operative between 2019 and 2020.

Conclusion:

A dynamic system, prompt approach and stringent protocols against the COVID-19 pandemic have allowed Taiwan to defy the odds as it continues to perform life-changing elective operations amidst this global pandemic, ensuring both patients' and healthcare workers' safety.

O-086

DENTAL EROSION IN OBESE PATIENTS BEFORE AND AFTER BARIATRIC SURGERY

Pre and post nutritional deficiencies

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Background:

Obese patients are at risk of dental erosion due to micronutrient deficiency, consumption of soft drinks, gastric reflux disease and vomiting. The present study evaluates the presence of dental erosion in obese patients before and after bariatric surgery as well as associating factors.

Method:

Dental erosions were assessed using the BEWE (Basic Erosive Wear Examination) scoring system. The unstimulated saliva production was measured. Blood samples were taken for serum concentration of calcium and vitamin D3. An investigative questionnaire evaluated risk factors for dental erosions.

Results:

62 patients with obesity were included in the analysis, 31 in the preoperative and 31 in the postoperative group. All patients after bariatric surgery showed compliance with supplements including vitamin D and calcium citrate daily. Vitamin D deficiency was detected in 19 patients in the preoperative group and 3 in the postoperative group ($p<0.001$). The serum calcium and vitamin D values were significantly higher in the postoperative group ($p=0.003$, $p<0.001$ consecutively). Patients after bariatric surgery were less likely to drink soft drinks regularly ($p=0.026$) and reported less GERD ($p=0.012$). BEWE scores did not vary between groups. Neither was a significant difference in the salivary flow. Income has a significant negative correlation with BEWE scores ($p=0.023$, coefficient= -0.288). The frequency of GERD, vomiting, BEWE scores, salivary flow, calcium and vitamin D did not differ between patients who underwent VSG and RYGB.

Conclusion:

Obese patients before and after bariatric surgery might be at risk for erosive dental wear. However, with sufficient education prior to surgery and consistent intake of vitamin and mineral supplements, significant erosive dental wear after bariatric surgery could be avoided. Regular dental examination should be included in the check-up and follow-up program in obese patients before and after bariatric surgery.

O-087

DEPRESSION IS PREVALENT IN POST-BARIATRIC SURGERY PATIENTS

Behavioral health and bariatric surgery - pre-and post-op challenges

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Introduction:

Depression and mood disorders are common co-morbid conditions seen in morbidly obese adults. Bariatric surgery is now accepted as the most effective treatment for morbid obesity and its utilization has increased in recent years. Although prior studies have generally found a decrease in both the severity of the symptoms and in the rate of mood disorders following bariatric surgery, there is also a known increase in suicide in this patient population.

Objectives:

We examined the incidence of depression symptoms in patients post bariatric surgery in order to establish recommendations for mental health follow-up in our practice.

Methods:

All patients presenting for a bariatric surgery follow-up visit beyond 3 months postoperatively were prospectively screened using the Patient Health Questionnaire-9 (PHQ-9). Charts were reviewed for demographics, procedure performed and mental health history. Patient scoring over 4 points on the PHQ-9 were referred to psychology.

Results:

603 surveys were administered on 415 post-bariatric surgery patients. 83.86% of patients screened were female. The age at time of screening ranged from 20 years to 76 years. Procedures included 72.05% sleeve gastrectomy, 23.37% gastric bypass and bypass revisions, 4.1% duodenal switch and 0.48% adjustable gastric banding. Follow-up ranged from 3 to 214 months.

Of the patients screened, 110 (26.5%) scored over 4 points on the PHQ-9 and were referred to psychology. The symptom severity was mild (score 5-9) in 70 patients, moderate (score 10-14) in 24 patients, moderately severe (score 15-19) in 14 patients and severe (score 20-27) in 2 patients.

Of the 110 patients with a score over 4, 53 patients (48.18%) had a pre-existing diagnosis of depression. Thirty-three patients (30.0%) had another pre-existing diagnosis relating to mental health, such as anxiety, panic attack, bipolar disorder, post-traumatic stress disorder (PTSD), or Seasonal Affective Disorder. Forty-four patients (40.0%) were on one or more medications for depression.

Conclusion:

Depression is prevalent in post bariatric surgery patients, even without pre-existing diagnosis of depression or other mood disorder. Routine screening of all bariatric surgery patients with the PHQ-9 tool is recommended at all postoperative follow-up visits in order to refer the patient to the proper

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O-088

DESLIZAMIENTO O MIGRACIÓN TORÁCICA DEL ESTÓMAGO EN POST OPERADOS DE MANGA GÁSTRICA: FLUROSCOPIA VS VOLUMETRÍA GÁSTRICA 3D

Basic science and research in bariatric surgery

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Introducción:

La Manga Gástrica es la técnica quirúrgica con mayor incidencia de síntomas asociados a reflujo gastroesofágico, y puede tener como resultado complicaciones como deslizamiento intratorácico. Es necesario una correcto seguimiento y evaluación de la morfología de manga gástrica mediante apoyo de imágenes radiológicas como la Volumetría Gástrica por Tomografía y Fluroscopia Esofágica. La volumetría permite tener una mejor visión de la unión gastroesofágica y del estómago para tener una evaluación más completa y poder determinar la existencia de complicaciones asociadas a la cirugía.

Objetivos:

Determinar la sensibilidad y especificidad de la Volumetría Gástrica por Tomografía en pacientes operados de manga gástrica para el diagnóstico de hernia hiatal o deslizamiento intratorácico
Determinar la sensibilidad y especificidad de la Fluoroscopia Esofágica en pacientes operados de manga gástrica para el diagnóstico de hernia hiatal o deslizamiento intratorácico
Comparar la sensibilidad de Volumetría Gástrica vs Fluroscopia para la detección del deslizamiento torácico del estómago.

Métodos:

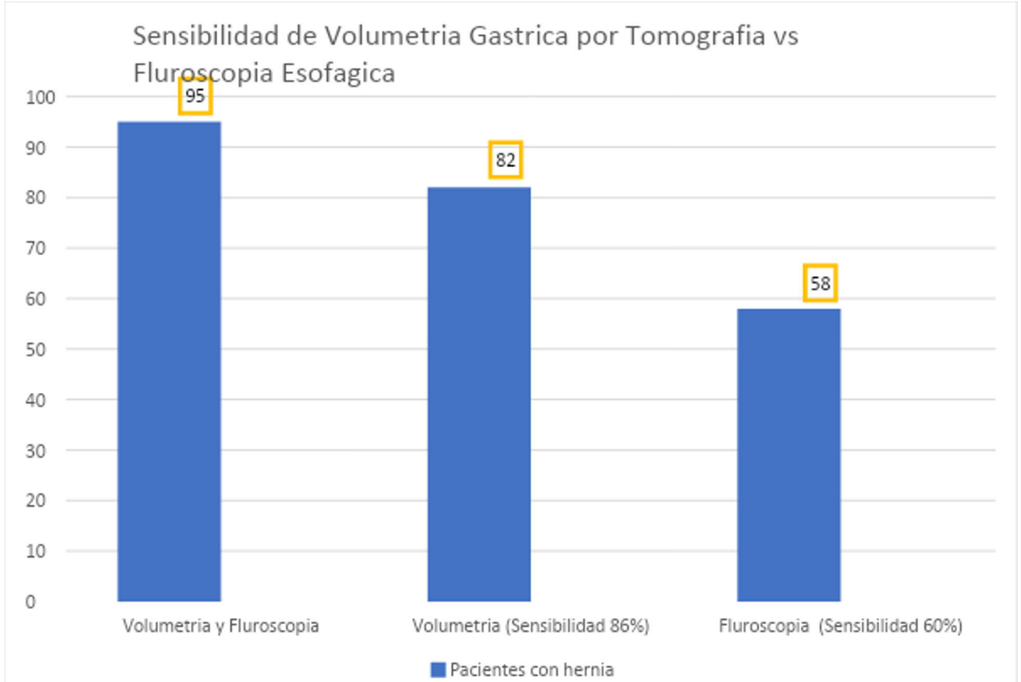
Los datos han sido recolectados de una base de datos de forma retrospectiva longitudinal de un estudio de motilidad esofágica en un centro hospitalario. De 243 pacientes post operados de Cirugía de Manga Gástrica, 128 pacientes tienen estudios de Volumetría Gástrica y Fluoroscopia Esofágica.

Resultados:

De un total de 243 pacientes operados de manga gástrica, 95 tuvieron diagnóstico de deslizamiento intratorácico en ambas pruebas, 82 sólo por Volumetría y 58 sólo por Fluoroscopia. Siendo así una sensibilidad de 86% y 60% para Volumetría Gástrica por Tomografía y Fluoroscopia Esofágica respectivamente. Además

Conclusión:

Se ha determinado que en pacientes post operados de cirugia de manga gástrica, existe una mayor recurrencia de síntomas asociados a reflujo gastroesofágico así como complicaciones poco reportadas como deslizamiento intratorácico. Para este último, se ha evidencia que hay un mejor resultado para identificar el deslizamiento intratorácico utilizando el estudio de Volumetría Gástrica por Tomografía en comparación al estudio por Fluoroscopia.



O-089

DEVELOPMENT AND VALIDATION OF A NOMOGRAM FOR PREDICTING OBSTRUCTIVE SLEEP APNEA IN BARIATRIC SURGERY CANDIDATES

Sleep and bariatric surgery

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Background:

Obstructive sleep apnea (OSA) is highly prevalent in bariatric surgery patients and can lead to potential perioperative risks, but some screening tools lack adequate performance in this population. Thus, we aimed to develop and validate a clinical nomogram for predicting OSA in bariatric surgery candidates.

Method:

We retrospectively collected the data of 482 bariatric surgery patients between September 2015 and January 2020. Patients were randomly classified into training cohort(n=338) and validation cohort(n=144). The Lasso regression was used to select potentially relevant features, then multivariable logistic regression analysis was used to establish the nomogram. Discrimination, calibration, and clinical usefulness of the nomogram were assessed by the C-index, calibration curve and decision curve analysis (DCA).

Results:

The overall prevalence of OSA was 71.0% and higher in males (88.2 %) compared to females (60.1%). Of these, 26.1% had mild OSA, 14.9% had moderate OSA, and 44.8% had severe OSA. The nomogram consisted of gender, habitual snoring, type 2 diabetes mellitus (T2DM), neck circumference, body mass index (BMI) and age. The nomogram provided favorable discrimination, with a C-indexes for the training and validation cohort of 0.856 (95% CI: 0.816-0.897) and 0.829(95% CI: 0.76-0.895), respectively, and good calibration. The DCA displayed that the nomogram was clinically useful.

Conclusion:

We established a concise and practical nomogram that could facilitate the preoperative individualized prediction of OSA before bariatric surgery, which may help clinicians select bariatric surgery patients with high-risk OSA to polysomnography (PSG).

O-090

DEVELOPMENT AND VALIDATION OF A NOVEL SCORING SYSTEM FOR NON-INVASIVE NASH DETECTION IN BARIATRIC PATIENTS

NASH and bariatric surgery

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Background:

Non-alcoholic fatty liver disease covers a broad spectrum. Simple steatosis has usually a benign course while non-alcoholic Steatohepatitis (NASH can progress into hepatocellular carcinoma (HCC) and cirrhosis. Therefore, differentiating patients with benign steatosis and NASH is crucial. Liver biopsy, the usual gold standard for NASH diagnosis, cannot be used as a screening method due to its associated risks. This is especially problematic for obese patients with a prevalence of NAFLD in >80% of patients.

Objective:

The aim of this study was therefore to develop and validate a non-invasive NASH screening test in a cohort of high-risk, morbidly obese patients.

Methods:

This prospective study examined diagnostic accuracy in accordance with STARD guidelines. 112 liver biopsies were consecutively assigned to either a training or validation cohort. Using the Bedossa histological scoring system, the cohorts were subdivided into NASH vs. NAFLD/No NAFLD. Predictors of NASH were evaluated with receiver operating characteristic (ROC) curves. A model was then constructed using a backward stepwise logistic regression and evaluated in an independent validation cohort.

Results:

53.5% of the patients had NASH and 4 patients had cirrhosis. Mean body mass index (BMI) was 49.8±7.5 kg/m2. Backwards stepwise logistic regression identified four parameters associated with the presence of NASH: Alanin-Aminotransferase, Albumin, BMI, and Triglycerides. The model had an ROC of 0.851 and 0.727 in the training and validation cohorts, respectively. Sensitivity and specificity were 77.1% and 88% in the training cohort and 88% and 48% in the validation cohort which was much better than the established non-invasive scores.

Conclusion:

This NASH-scoring system is easy-to-use, inexpensive, and non-invasive, and can reliably detect NASH in patients with morbid obesity. Due to its simplicity, it can be used frequently and repeatedly.

O-091

DEVELOPMENT OF A RATING SCALE FOR GASTRIC BYPASS SURGERY: EXPERT CONSENSUS USING A MODIFIED DELPHI PROCESS

Bariatric training

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Introduction:

At scale assessment of gastric bypass procedures is challenging due to lack of suitable tools allowing objective rating in an automated process. Thus, a rating tool was designed with binary items for best in class and poor performance. The rating scale including procedure steps, tasks and rating criteria was developed and tested by 3 surgeons.

Objectives:

This project aimed to develop and validate an AI-scalable rating scale for gastric bypass procedures to identify best in class procedures, an individual surgeon's detailed status and to deliver deep datasets for research.

Methods:

Fifteen expert bariatric surgeons with >500 minimally invasive RYGB procedures and at least two years of teaching experience were recruited to validate the rating scale during a modified Delphi process with three rounds (two anonymous online surveys, one face-to-face meeting via videoconferencing). During each round, all items were rated to accept "as-is", to suggest modifications, or to exclude. The option was also given or to propose additional content. Consensus was assumed at 80% agreement. Items without agreement were moved to the next round until agreement was reached during the final face-to-face discussion.

Results:

The proposed rating scale included five procedure steps with 14 tasks. Through the project all the proposed steps and tasks reached consensus for inclusion, and two additional tasks were included. Thus, the final expert consensus-driven rating scale consists of five procedure steps and 16 procedure tasks: gastric pouch creation (dissection of angle of his, open lesser sac, horizontal stapling, posterior dissection, vertical stapling), gastro-jejunal anastomosis (enterotomy, gastrotomy, stapling, enterotomy closure), jejuno-jejunal anastomosis (enterotomies, stapling, enterotomy closure), measurement of small bowel (measurement of biliary loop, measurement of alimentary loop), and closure of mesentery (closure of Petersen's Space, closure of mesenteric defect). Across the tasks, 48 rating criteria were initially proposed. Through the rounds, two were modified and none were deleted. Three novel criteria items were included, for a final of 51 rating criteria (please refer to images for examples of rating criteria).

Conclusion:

The product of this project, which will be presented in detail at conference, is an expert consensus derived rating scale for gastric bypass. Next, this rating scale will undergo a video review-based validation

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O-092

DIFFERENCES BETWEEN THE INFLAMMATORY PATTERNS OF METABOLIC AND NON-METABOLIC MORBID OBESITY

Basic science and research in bariatric surgery

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Background:

The metabolic effects of excess fat are characterized by peripheral insulin resistance (IR), hyperlipidemic state and a state of systemic oxidative stress, with the appearance of a pro-inflammatory situation. White blood cell count (WBC) is a marker of systemic inflammation and studies revealed that WBC is related to IR which is a central mechanism of metabolic syndrome (MetS).

Bariatric surgery is known to improve metabolic syndrome and chronic inflammatory status.

Objective:

The aim of this study is to investigate the differences between the inflammatory patterns of metabolic and non-metabolic morbid obesity (MO) and the effect bariatric surgery (BS) on inflammatory markers.

Method:

Patients undergoing primary BS from January 2004 to December 2015 were included.

Data included gender, age, weight, BMI, comorbidities, %EBMIL, %TWL and laboratory measurements (leukocyte, neutrophil, lymphocyte, platelets, fibrinogen, and ferritin) obtained in the preoperative period (T0) and 1st (T1), 2nd (T2) and 5th (T5) postoperative years.

p value <0,05 was considered to be statistically significant.

Results:

346 patients underwent BS: 325 patients had major comorbidities (metabolic MO) and 21 patients had no major comorbidity (non-metabolic MO).

The preoperative data and weight evolution are shown in Table1 and Graph1.

The preoperative values of leukocyte [8,2(3-16) vs 9,4(7-14)], neutrophil [4,8(2-11) vs 5,6(4-8)], platelets [269(122-561) vs (311(222-434)] and fibrinogen [467(255-804) vs 503(372-700)] were statistically higher in the non-metabolic MO patients.

The inflammatory markers evolution is shown in Graph 2. The postoperative values of leukocyte and neutrophil were statistically higher in the non-metabolic MO group at T1 and T5.

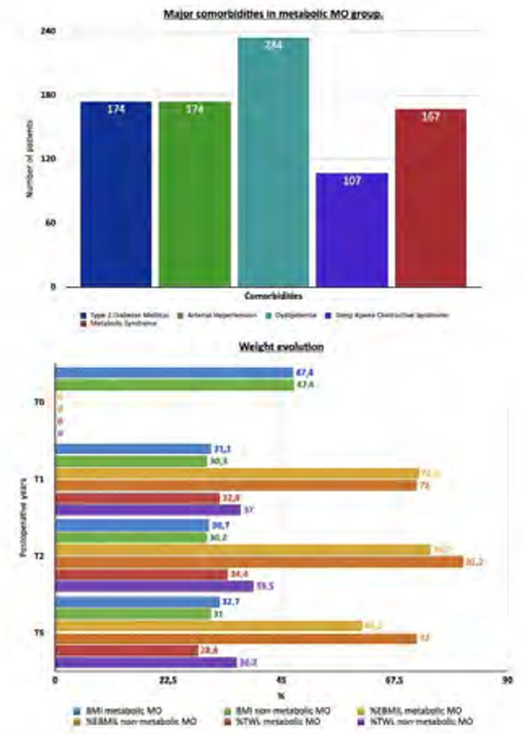
No patient of non-metabolic MO group developed any major comorbidity in the first five postoperative years.

Conclusion:

The pro-inflammatory status associated to obesity is greater in non-metabolic MO patients than metabolic MO patients.

BS improves the pro-inflammatory status, and it resolves the MetS and major comorbidities.

	Metabolic OM (n=325)	Non-metabolic OM (n=21)	p
Gender F:M	233:92	17:04	0.358
Age(years)	45,7(19-68)	31,1(22-58)	<0,001
Weight(Kg)	126,6(90-226,7)	132(100-200)	0.877
BMI(Kg/m2)	47,4(35-70,9)	47,6(40,1-61,7)	0.62
Waist circumference(cm)	128(93-210)	122(104-155)	0.199
Primary BS: Gastric By-pass Sleeve Gastrectomy	 221(68%) 104(32%)	 16(76,2%) 5(23,8%)	0.434



O-093

DIVERTED MGB AS AN OPTION FOR GERIATRIC POPULATION WITH EMPHASIS ON QUALITY OF LIFE

Bariatric surgery in the over 65s

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Introduction:

Morbid obesity together with obesity-related diseases have a negative impact on the overall quality of life (QOL).

Objective:

The present study aimed to assess the QOL in geriatric patients post Diverted Mini Gastric Bypass (MGB) with a focus on weight loss achieved, co-morbidity resolution (Biliary reflux", "marginal ulcer" or excessive weight loss, leading to improved treatment) and change in lifestyle after surgery.

Methods:

A case series study in which QOL was studied where all patients undergoing bariatric surgery, from the day of surgery were enrolled and followed up for 6months. Data on QOL was assessed using the Bariatric Analysis and Reporting Outcome System (BAROS) tool, which is based on three major areas of weight loss percentage, co-morbidity resolution and QOL. The variation in QOL was assessed using the Moorehead Ardelt QOL questionnaire which addresses self-esteem along with daily activities such as physical fitness, social gathering, and sexual life, etc. Negative scores were given to complications and re-surgery. All data were entered in MS excel and statistically analyzed using SPSS software.

Results:

Patients of age range >60 yrs were recorded. Based on the BAROS tool overall QOL change was studied in the patients on constant follow up on 6 months after surgery. By adding a Roux-en-Y diversion to the MGB-OAGB cases, we saw that along with weight loss the patients recovered of pathologic post-operative biliary reflux and marginal ulcer giving them a comfortable and effective solution to the persistent problem. The patients were nutritionally adequate and overall eating pattern and quantitative intake improved with time. This indicates that quality of life improves after DMGB.

Conclusion:

Diverted MGB appears to be as effective as the MGB and reduces the incidence of reflux and marginal ulcer. It combines the advantages of the MGB (mild restriction and moderate malabsorption) with the anti-reflux effect of the Roux-en-Y diversion.

O-094

DO WE ALWAYS NEED TO LOSE ACCESS TO EXCLUDE STOMACH AND BILIARY TREE WHEN WE DO A GASTRIC BYPASS?

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Loss of endoscopic access to the excluded stomach and biliary tract following a gastric bypass is an identified drawback and there is a felt need to circumvent the problem.

Many interventions have been tried to access the excluded stomach including EUS directed transgastric interventions Surgical gastrostomy for access.

Objective:

Intentional Gastro-Gastric Fistula (GGF) in selected patients with higher predictable need for future endoscopy is an innovative method for addressing the problem. The aim of the presentation is to discuss the technique.

Methods:

Presenting our case of Mini Gastric Bypass in a Cirrhotic patient with intentional GGF at an anti-gravity position along the cranial end of the vertical staple line, which helped us to have endoscopic access to the excluded stomach and biliary tract post-operatively.

Unlike RYGB, MGB has a longer pouch and a wider stoma which results in a lower pressure system owing to reduced food transit time. This alleviates the concern of food passage across the GGF, which leads to undesirable inadequate weight loss and/or weight regain.

Result:

Our cirrhotic patient was benefitted with this GGF for endoscopic access to excluded stomach post-operatively avoiding the cumbersome alternatives of Endo USG guided transgastric access and Laparoscopic guided access to the excluded stomach.

Conclusion:

Intentional GGF constructed in an antigravity position on a low-pressure system MGB serves the advantage of access to excluded stomach and biliary tract, probably without the risk of trans fistula food passage and weight regain.

However, long term follow-up for weight loss in this technique needs to be observed.

O-095

DOES AN ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL INFLUENCE PERI- AND POSTOPERATIVE OUTCOMES OF ROUX-EN-Y GASTRIC BYPASS PATIENTS WITH DIABETES?

Enhanced recovery in bariatric surgery

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Background:

Bariatric patients with Type 2 diabetes (T2D), particularly those on insulin with advanced disease, are at increased risk of postoperative morbidity. Implementation of an ERAS protocol promotes hospital recovery and may reduce morbidity.

Objectives:

To examine the effects of an ERAS versus standard care (SC) protocol on surgical morbidity following Roux-en-Y gastric bypass (RYGB) for patients with T2D on or not on insulin and their non-diabetes controls (CON).

Methods:

The study was a retrospective analysis of 280 RYGB patients: 140 with T2D (70 ERAS, 70 SC) and 140 RYGB non-diabetes controls (CON) (70 ERAS, 70 SC). Among patients with T2D under both the ERAS and SC protocols, 38% required insulin (INS+) and 62% did not (No-INS). Outcome measures included glycemic status, complications, length of stay (LOS), 30-day readmissions, reoperations, and mortality.

Results:

Patients under the ERAS and SC protocol within each of their respective populations (INS+, No INS, CON) were similar regarding age, weight, BMI, HbA1c, and obesity-associated medical problems. INS+ under either protocol had significantly ($p<0.05$) higher HbA1c, glucose, and diabetes-associated co-morbidities than did the No-INS patients and these measures within the two T2D groups statistically ($p<0.05$) exceeded those of the non-diabetes controls. Postoperatively, there were no significant ($p>0.05$) differences between ERAS and SC for glycemic status, complications, 30-day readmissions, reoperations, or mortality. However, ERAS significantly reduced LOS, the impact being more pronounced for INS+ patients with T2D (1.43 vs. 2.23 days, $p<0.01$, ERAS vs. SC) than for the No-INS patients (1.42 vs. 1.74 days, $p<0.01$ ERAS vs. SC) or the non-diabetes controls (1.31 vs. 1.71, $p<0.001$).

Conclusions:

Implementation of an ERAS protocol for RYGB patients with T2D is associated with earlier hospital discharge without significant effect on complications, readmissions, or mortality.

O-096

DOES FMI CORRELATE BETTER THAN BMI WITH THE DEGREE OF OBESITY AND METABOLIC CHANGES IN OBESE PATIENTS? PRELIMINARY RESULTS OF A COHORT FROM A SINGLE CENTER.

Basic science and research in bariatric surgery

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Background:

Body mass index (BMI) is the most widely acceptable quantifier of obesity because it is convenient, readily available in any clinical setting and costless. However, excess of adipose tissue, which is the main risk factor in metabolic diseases, is not evaluated by this indicator. In comparison, fat mass index (FMI) correlates fat weight and height of the patients and supposedly is more reliable in the classification of adiposity.

Objective:

The aim of the present study is to evaluate the correlation between BMI and FMI in obese patients who underwent bariatric surgery, before and after the operation at standardized intervals, in order to determine proper use of each indicator for the follow-up of these patients.

Method:

This ongoing retrospective analysis of prospectively collected data includes 42 patients (28 females) who underwent bariatric surgery (3 One Anastomosis Gastric Bypass and 39 Sleeve Gastrectomy). Patients' percentage of adipose tissue was evaluated by means of Bioelectrical Impedance Analysis (BIA) the day before the operation (baseline) and 3 months after the procedure. Body fat content was expressed as FMI [FMI = (% fat as per BIA) * (body weight in Kgs) / (height in m) ^2].

Results:

Participants' mean age was 37.4 years (±10.2 years) and the average length of hospital stay was 2.6 days (±2.4 days). For the 42 patients, mean preoperative BMI was 49.7 and preoperative FMI was 23.1. Linear regression showed statistically significant correlation between preoperative BMI and FMI values ($p <0.0001$, slope 0.53 ±0.07, 95% CI 0.39-0.66). Data has been collected only for 9 patients so far, as unprecedented conditions due to COVID-19 have altered follow-up visits. At 3 months, postoperative mean BMI was 42.9 and FMI was 16.3. Linear regression also showed statistically significant correlation between the two indices (p 0.0067, slope 0.43 ±0.07, 95% CI 0.16-0.70).

Conclusion:

These preliminary results indicate that there is strong correlation between BMI and FMI, in accordance with recent findings from other investigators. Given that BMI is more readily available from a practical perspective, we should continue to use it as the single most useful indicator for classifying obesity and evaluating the effects of bariatric surgery.

O-097

DOUBLE PERCUTANEOUS TRANS-ESOPHAGEAL GASTRO-TUBING: A POTENTIAL TREATMENT OPTION FOR SLEEVE LEAKAGE

Endoscopic and percutaneous interventional procedures

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Background:

Percutaneous trans-esophageal gastro-tubing (PTEG) can serve the dual purposes of splinting the leakage site and providing jejunal nutritional access during the management of sleeve leakage, especially near the esophagogastric junction. An additional intraluminal tube through the same opening of the primary PTEG, hereinafter called double PTEG (d-PTEG), can simultaneously attain enteral nutrition access and gastrointestinal decompression separately through each tube (Figure 1).

Objectives:

We introduce the method of d-PTEG.

Methods:

The PTEG kit (Sumitomo Bakelite Co., Ltd., Tokyo, Japan) includes ready-to-use devices, such as a needle with a sheath, rupture-free balloon (RFB), dilator, guidewires, and long placement tube (Figure 2). In brief, the procedure is performed as follows. An RFB is dilated with a contrast medium mixed with saline in the upper esophagus to facilitate percutaneous esophageal puncture under ultrasonography and fluoroscopy. A matching guidewire is threaded into the esophageal lumen through an introducer needle. After dilating the path around the guidewire, the indwelling tube is advanced over the guidewire. Furthermore, the use of a second guidewire and a dilator with a peel-away sheath facilitates the placement of an additional intraluminal tube.

Results:

D-PTEG was performed under general anesthesia with no severe adverse events. It was suitable for long-term purposes of gastrointestinal decompression and enteral feeding.

Conclusion:

D-PTEG may be a minimally invasive, effective alternative treatment in patients with intractable sleeve leakage.

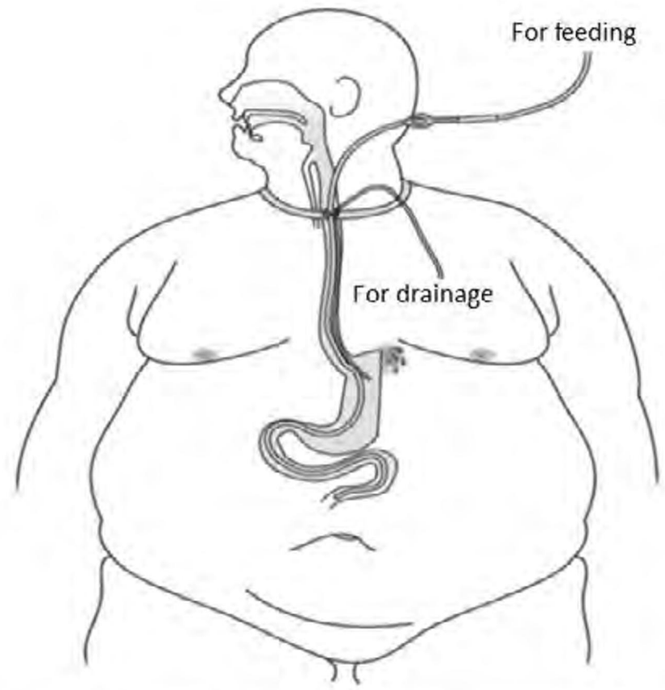

Figure 1: Image of the double percutaneous transesophageal gastro-tubing

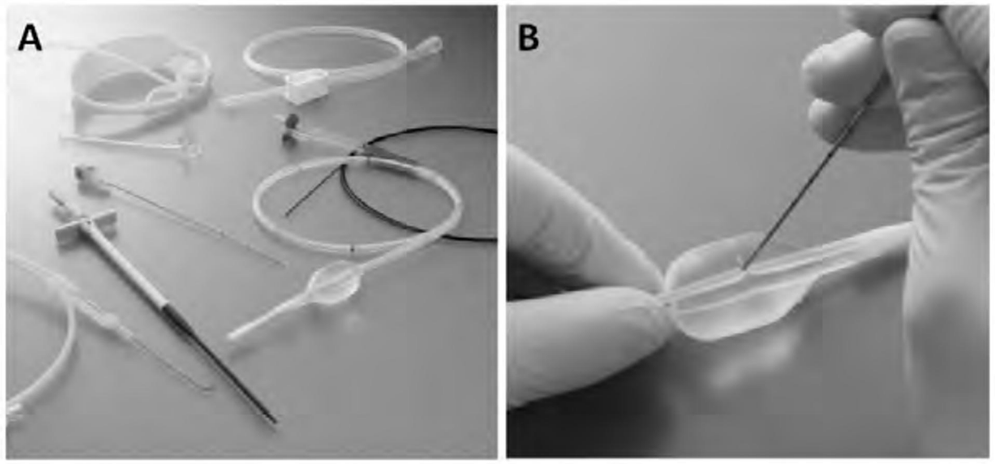

Figure 2: A) A percutaneous transesophageal gastro-tubing kit
B) The rupture-free balloon is not ruptured by needle puncture.

O-098

DUODENAL-ILEAL DIVERSION WITH SELF-ASSEMBLING MAGNETS IN PATIENTS WITH INADEQUATE WEIGHT LOSS OR WEIGHT REGAIN FOLLOWING SLEEVE GASTRECTOMY: FEASIBILITY AND EARLY RESULTS

Emergent technology, new non standard and bariatric surgery

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Background:

Sleeve gastrectomy (SG) procedures over the past five years have become the highest volume procedure worldwide for treatment of obesity and metabolic syndrome, but over time many of these patients have reported insufficient weight loss or weight regain. This has driven the need for an effective and safe revisional surgery to address their obesity. Less-invasive approaches that allow for a malabsorptive element to a patient's existing SG would be desirable.

Objective:

A study was conducted to determine the technical feasibility and safety of a minimally invasive, duodenal-ileal side-to-side anastomosis using a sutureless neodymium anastomosis procedure or SNAP for patients who experienced weight regain or inadequate weight loss following their SG.

Methods:

Our study is a prospective, single-arm, open label pilot study that enrolled patients with obesity (BMI 35-50 kg/m2) to assist in weight reduction following a failed SG performed >12 months from study enrollment. For the SNAP procedure, a self-assembling magnet was deployed into the ileum laparoscopically and a second magnet was deployed per-orally into the duodenum via endoscopy. Magnets were coupled together under laparoscopic and fluoroscopic guidance, creating a compression anastomosis between the two segments of bowel. Primary endpoints of the study are technical feasibility of the procedure, effect on weight loss, and safety.

Results:

A successful duodenal-ileal diversion was created with the SNAP procedure in 18 subjects (mean age: 49.1±10.2, mean BMI: 37.4±3.0 kg/m2, mean period between SG to SNAP: 4.8±3.2 years) with no device-related serious adverse events. All magnets were naturally expelled from patient in the fecal stream. Patients' follow-up (FU) and analysis at the time of this writing is up to 3 months. Upper endoscopy at 3 month FU confirmed patent anastomosis with healthy-appearing mucosa in all applicable patients. Average total body weight loss (%TBWL) from pre-study weight was 7.3±3.4% and 15.5±6.0% at 1 month and 3 months respectively.

Conclusion:

Successful duodenal-ileal diversion was created in all patients with self-assembling magnets, demonstrating that the SNAP procedure is feasible and safe in these patients. This resulted in a clinically meaningful improvement in weight reduction in the early stages of FU with patient surveys reporting very high satisfaction. Early results are encouraging but longer follow-up and larger study populations are required.

O-099

DUODENAL-JEJUNAL BYPASS LINER FOR THE MANAGEMENT OF TYPE 2 DIABETES: RESULTS FROM A MULTICENTRE RANDOMISED CONTROLLED TRIAL.

Endoscopic and percutaneous interventional procedures

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Background:

The endoluminal duodenal-jejunal bypass liner (DJBL) is an innovative endoscopic implant developed and used for the treatment of adults with Type 2 Diabetes Mellitus. It consists of a single use impermeable fluoropolymer sleeve which is implanted in the duodenum endoscopically. The aim underlying its conception and design is to mimic part of the impressive metabolic and weight loss effects of intestinal bypass surgical procedures such as the Roux-en-Y gastric bypass.

Objective:

This is the largest randomised clinical trial (RCT) to examine the clinical efficacy and safety of the DJBL.

Method:

In this multi-centre open-label RCT, 170 adults with inadequately controlled T2DM were randomised to intensive medical care with or without the DJBL. Primary outcome was the percentage of participants achieving a glycated haemoglobin reduction of ≥20% at 1 year. Secondary outcomes included weight loss and cardiometabolic risk factors at 1 and 2 years.

Results:

There were no significant differences in the percentage of patients achieving the primary outcome between both groups at 1 year (DJBL 54.6% [n=30] vs. control 55.2% [n=32]; OR 0.93, 95% CI: 0.44, 2.0; p=.85). 24% (n=16) patients achieved ≥15% weight loss in the DJBL group compared to 4% (n=2) in the controls at 1 year (OR 8.3, 95% CI: 1.8, 39; p=.007). The DJBL group experienced superior reductions in systolic blood pressure, serum cholesterol and alanine transaminase at 1 year. There were more adverse events and early explanation rates in the DJBL group.

Conclusion:

The addition of the DJBL to intensive medical care was associated with superior weight loss, improvements in cardiometabolic risk factors and fatty liver disease markers, but not glycaemia, only whilst the device was in situ. In its current format the DJBL has a limited role in the treatment algorithm for people with T2DM and obesity.

O-100

DUODENAL-JEJUNAL BYPASS WITH SLEEVE GASTRECTOMY (DJB- SG) IN TYPE 2 DIABETES WITH BODY MASS INDEX (BMI) LESS THAN 30. 1 YEAR RESULTS

Type 2 diabetes and metabolic surgery

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Abstract:

Background Duodenal-jejunal bypass brings an acceptable glycemic control when added to sleeve gastrectomy in Duodenal-jejunal bypass with sleeve gastrectomy. This approach combines the principles and advantages of sleeve gastrectomy and a duodenal switch. There is not enough reported evidence following DJB-SG in diabetic patients with BMI less than 30.

Objective:

The aim of this study was to evaluate the effect of DJB-SG on type 2 diabetes remission in patients with BMI less than 30.

Methods:

In this study we did DJB-SG for 20 patients who suffered from type 2 diabetes with BMI less than 30. All patients had a normal fasting c- peptide with acceptable post prandial c-peptide rising (>20% rise) in our private hospital from October 2016 to October 2018. Complication rates, weight loss, and remission of diabetes and co-morbidities were evaluated and analyzed at 1,3,6 and 12 months after surgery.

Results:

Twenty diabetic patients were entered the study, 12 males and 8 females, while 11 of them were insulin dependent. Mean age was 48.7 ± 10.3 years, and the duration of diabetes was 10.5 ± 9.3 months. Evaluation of the results preoperative and 12 months after surgery: BMI 28.4 ± 1.8 vs 23.8 ± 1.7 kg/m2, fasting plasma glucose (FPG) 156.9 ± 31.2 vs. 95.7 ± 6 mg/dL, HbA1c 8.26 ± 1.8 vs 6.1 ± 0.7%, were all statistically significant (p value < 0.05).

Conclusion:

This study showed, combining duodenal switch with sleeve gastrectomy is highly effective in control of diabetes and metabolic syndrome in non-obese patients (BMI < 30). Further evaluation on more cases with longer follow-ups is essential.

O-101

EARLY DISCHARGE FOLLOWING METABOLIC BARIATRIC SURGERY

Investigational procedures

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Background/Introduction:

The numbers of metabolic bariatric surgery centers performing fast-track metabolic bariatric surgery (MBS) are increasing.

Objectives:

The aim of this study was to evaluate the safety and efficiency of early discharge after primary and secondary MBS.

Methods:

An early discharge (0900 PDO1) protocol was established and initiated by the MBS surgeon and Integrative Health multidisciplinary team. Rates for 30-day readmissions, Emergency Department (ED) visits, and dehydration-related infusions were compared between the early discharge protocol and the program's previous standard process. The study population included 200 primary MBS procedures (sleeve gastrectomy, gastric bypass, duodenal switch) matched by procedure between the early and standard discharge protocols, plus an additional 30 revisions/conversions.

Results:

Early vs. standard discharge significantly reduced the length of hospital stay (LOS) for all MBS procedures. Early discharge decreased LOS by an average of 6 hours or 0.25 days (1.24 vs. 1.49 days, $p<0.01$) following primary procedures and 0.14 days for the revisions/conversions. Early discharge following primary surgeries had no adverse effect on 30-day readmissions (8% vs. 6% for the early vs. standard discharge protocols, respectively), ED visits (15% vs. 13%) or need for dehydration-related infusions (5% vs. 10%). There were also no significant protocol-related differences (chi sq >0.05) in outcomes following revisions/conversions.

Conclusion:

Implementation of a protocol for earlier hospital discharge is feasible and safe and does not increase MBS postoperative readmissions and unplanned ED or infusion center visits.

O-102

EARLY EGYPTIAN EXPERIENCE WITH ROBOTIC-ASSISTED BARIATRIC SURGERY

Robotic bariatric surgery

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Background:

The advent of robotic surgery heralded a new era for human surgical techniques. Robotic-assisted bariatric surgery is an increasingly popular alternative to the conventional laparoscopic approach. This has raised concerns about its cost, operative times, and its actual benefits to the patient, surgeon, and healthcare system over the conventional laparoscopic approach.

Objective:

To provide an early report of the first Egyptian case-series of robotic-assisted bariatric surgery and perioperative short-term outcomes (30-day outcomes).

Methods:

All consecutive patients underwent robotic-assisted bariatric surgery by the same surgeon using the Versius® Surgical Robotic System by CMR with the assistance of one laparoscopic port.
Patient demographic data, body mass index, operative times, hospital stay, complications and mortality in the 30 postoperative days were recorded.

Results:

Twenty patients were included in the study (16 females - 80%), with a mean age of 39 years (range 29 to 55) and mean BMI of 43.85 (35.76– 56.19). Eighteen cases underwent sleeve gastrectomy (one of them had concomitant cholecystectomy), one case had Roux en-Y gastric bypass, and another had revisional surgery to one anastomosis gastric bypass. Average console time was 124 minutes (range 70 to 260) and all cases had one-day hospital stay except one case “ischemic heart disease” who stayed 2 days for monitoring. Postoperative surgical complication rate was 5%, with only one minor complication (wound infection). There was no need for laparoscopic takeover or open conversion, no hospital readmission, and no mortality in the first 30 days.

Conclusion:

Even with the very early experience, the robotic approach was safe and reproducible for the surgical treatment of the morbid obesity. Also, it might offer some advantages showing good outcomes and minimal complications.

Keywords: Robotic surgery, Robotic-assisted sleeve gastrectomy, Robotic-assisted gastric bypass, Obesity surgery, Bariatric surgery, Revisional surgery, Metabolic Syndrome, Robotic Surgical Procedures

O-103

EARLY OUTCOMES OF MAGNETIC SPHINCTER AUGMENTATION FOR REFLUX AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY SURGERY

GERD and Bariatric Surgery

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Introduction:

Gastroesophageal reflux (GER) post-laparoscopic sleeve gastrectomy (LSG) is common and significantly impacts patient quality of life. Magnetic sphincter augmentation for post-operative GER using the LINX® Reflux Management System has been associated with reduction in proton pump inhibitor (PPI) use but there is little objective data on reduction of postoperative GER.

Objectives:

This study aims to report objective measures of GER in post-LSG patients undergoing magnetic sphincter augmentation, including 24h pH-impedance test results, change in symptom scores and quality of life improvement.

Methods:

Patients who underwent LINX® implantation for post-LSG reflux from 2019-2020 in our institution were retrospectively identified and analyzed. Selected patients underwent 24h pH-impedance testing post-operatively to determine correlation between symptom-reporting and objective measure of reflux.
Primary endpoint was determined to be normalized acid exposure (<4% of time with pH <4 in a 24-hour period) or >50% reduction in the proportion of time with pH <4 as compared with baseline pre-LINX® pH study. Secondary end points were determined as patients with >50% reduction in modified DeMeester Clinical Symptoms Score or Gastroesophageal Reflux Disease-Health Related Quality of life (GERD-HRQL).

Results:

7 post-LSG patients underwent LINX® implantation between 2019-2020 and were followed up for a median period of 18 months post-operatively. Mean BMI of patients undergoing LINX® implantation was 28.1 kg/m2 and median time from LINX® implantation post-LSG was 52 months from index surgery. Post-LINX® symptom-reporting data was available for 5 patients. A reduction of median modified DeMeester score (4 to 2) and GERD-HRQL score (45 to 13) was observed. 80% (n=4) and 60% (n=3) achieved the secondary endpoint of >50% reduction of modified DeMeester and total GERD-HRQL scores respectively. 24h pH data was available for 3 post-LSG patients 1-year post-LINX®.
No reduction was observed in acid exposure time (pre vs post, 14.9%±16.5 vs 16.5%±8.2, p=0.775), total number of reflux episodes (165±168 vs 118±80, p=0.477), total number of impedance events (157±128 vs 219±96, p=0.673) and DeMeester score (49.7±49.7 vs 62.3±27.5, p=0.454) post-LINX® implantation.

Conclusion:

LINX® implantation post-LSG is associated with reduction in patient-reported reflux symptoms but not reflected on 24h pH-impedance study. More data is required to elucidate these associations.

O-104

EARLY POST-OPERATIVE WEIGHT CHANGE AFTER ROUX-EN-Y GASTRIC BYPASS PREDICTS WEIGHT LOSS AT 12 MONTH FOLLOW-UP

Basic science and research in bariatric surgery

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Introduction:

Sub-optimal weight loss following Roux-en-Y gastric bypass (RYGB) represents an important clinical challenge in a significant number of patients. Early identification of such patients would be advantageous, as it could aid in the selective implementation of targeted adjunct interventions during the first post-operative year.

Methods:

Clinical audit data from 1137 patients undergoing RYGB between 2013 and 2016 at the Instituto de Medicina Sallet in Brazil were prospectively registered in an online database (BOLD) and analyzed.

Results:

Forty-eight percent of patients achieving less than 5% total weight loss after the first post-operative month achieved a 20% total weight loss at 1 year (n = 626; OR = 0.6 CI = 95%). Eighty-three percent of patients losing between 5 and 10% at 1 month and 95% of patients losing greater than 10% at 1 month had lost at least 20% of total body weight after the first post-operative year. Forty-four percent of patients achieving less than 10% total weight loss after the third post-operative month achieved 20% total weight loss at 1 year (n = 494; OR = 0.3 CI = 95%).

Conclusion:

Total bodyweight reduction after RYGB of < 5% at 1 month and < 10% at 3 months is associated with suboptimal weight loss at 1 year. These results reinforce findings from other studies reporting that patients tend to follow a common weight loss trajectory. Identifying the patients with weight trajectory requiring adjunct therapies early on is crucial so appropriate adjustments can be made to post-operative care.

O-105

EARLY POSTOPERATIVE BLEEDING AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: A SINGLE CENTER ANALYSIS

Endoscopic and percutaneous interventional procedures

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Background:

Early postoperative bleeding is a common complication after Laparoscopic Roux-En-Y Gastric Bypass (LRYGB) and it is associated with significant morbidity. We aimed to identify predictors of early postoperative bleeding after LRYGB, characterize hemorrhagic events and 30-day postoperative outcomes.

Methods:

Retrospective cohort study including all patients submitted to LRYGB in a High-Volume Obesity Center in 2019. Early postoperative bleeding was defined as any clinically significant evidence of hemorrhage < 30 days after surgery. Demographic, preoperative, and intraoperative factors were tested for associations with postoperative bleeding. Postoperative outcomes of length of stay, reintervention, and readmission were compared between patients with and without hemorrhage.

Results:

Of 340 patients submitted to LRYGB, early postoperative gastrointestinal bleeding occurred in 14 (4.1%). Patients with bleeding had an increased preoperative left hepatic lobe diameter (8.4 vs. 7.3 cm, p=0.048). Prior cholecystectomy (28.6 vs. 14.5%) and previous bariatric surgery (35.7 vs. 23.9%) tended to be prevalent among these patients. Hemorrhage was evident at a median time of 31.2 [IQR 19.7-38.5] hours. Thirteen patients presented with intraluminal and one with extraluminal bleeding. Melena was the most common symptom. All hemorrhages were clinically diagnosed, and 92.9% were managed conservatively. Postoperative bleeding was associated with a longer hospital stay (3.5 vs. 2 days) and with a higher reintervention (7.1% vs. 0) and readmission rates (14.3% vs. 0), all $p<0.05$.

Conclusions:

Patients with predictable technically challenging LRYGB should be carefully assessed, and preoperative optimization of hemorrhagic risk factors is an essential step to prevent bleeding. Patients with higher risk of bleeding may demand additional strategies regarding surgical technique and peri-operative care.

O-106

EARLY POTENTIATION OF BETA-CELL RESPONSE AFTER ROUX-EN-Y GASTRIC BYPASS: A CRITICAL DETERMINANT OF DIABETES REMISSION IN NONOBESE ASIANS

Type 2 diabetes and metabolic surgery

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Background:

Beta-cell secretory function, rather an insulin sensitivity, deteriorates earlier in the pathogenesis of T2DM in Asians than in their Caucasian counterpart.

Objectives:

We evaluated a hypothesis that recovery of beta-cell dysfunction would be more crucial to diabetes remission after Roux-en-Y gastric bypass (RYGB) than improvement of insulin sensitivity in non-obese Asians with far-deteriorated T2DM.

Methods:

Twenty-one non-obese (BMI < 30kg/m2) patients with T2DM > 5 years underwent RYGB. We calculated the disposition index (DI) with dynamic-phase insulin sensitivity (composite insulin sensitivity index, ISIcomp) and beta-cell response to oral glucose challenge (insulinogenic index, IGI) by oral glucose tolerance test (OGTT) at baseline, 1, 3, 6, and 12 months after RYGB. Postoperative changes of DI were compared between the complete diabetes remission group (R, HbA1c < 6.5% without medication, 12 months postoperatively) and non-remission (nR).

Results:

Complete remission was achieved in 38,9%(n=7/18), 41.1%(n=7/17), and 33.3%(n=5/15) of patients at 3, 6, and 12 months after surgery, respectively. Complete OGTT data for every follow-up time point was obtained in 12 patients. 41.6%(n=5/12) of the patients achieved complete remission. DI was threefold higher in R 12 months postoperatively (1.7±1.0 vs. 0.5±0.2, P<0.01). IGI increased by five- and threefold in each R and nR ($p < 0.01$ and < 0.05, respectively) as early as three months postoperatively, which remained threefold higher in the R than in nR. ISIcomp did not significantly improve in both groups during the follow-up, despite significant weight loss three months postoperatively.

Conclusion:

Early potentiation of beta-cell response after RYGB is critical for diabetes remission in non-obese Asians with far deteriorated T2DM.

O-107

EARLY RESULTS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY IN ADOLESCENTS WITH MORBID OBESITY: (SERIES OF 50 CASES)

Bariatric surgery in children, adolescents and young adults

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Background:

Recently Laparoscopic sleeve gastrectomy is a widely accepted stand-alone bariatric operation for adolescents. To the best of our knowledge, there are a little data to evaluate early postoperative weight loss with respect to long term postoperative weight loss in adolescents.

Objective:

The objective of this study was to assess initial results and short-term outcome of LSG in adolescents with morbid obesity regarding the remission and improvement of co-morbidities, excess weight loss % and peri operative and postoperative complications

Methods:

A retrospective study was conducted of 50 adolescent patients aged between 12 and 18 with BMI of at least 40 kg/m2, or 35 kg/m2 with an associated comorbidity, or BMI for age and gender C99 percentile in patients younger than aged 18 years. All patients underwent LSG from October 2016 to December 2019 at pediatric surgery department, Tanta University Hospital. Egypt. All Patients included in our study were assessed regarding their weight loss, eating behavior, comorbidity status, and the presence of any complications up to 12 months after LSG.

Results:

Fifty patients from 12 years to 18 years with mean age was 16.5 years, mean preoperative weight was 132.68 kg and mean preoperative BMI was 49.6 kg/m2. Average operative time was 37.7 min. There were neither major postoperative complications nor mortality. Average Hospital stay was 2.3 with only one patient readmission. Average postoperative weight was 78.54 kg at 12 months and statistically there was significant difference regarding weight loss. Also, average EWL% was 36.5 and 51.2 at 6 and 12 months respectively and also statistically showed significant difference, average BMI excess was 22.23 kg/m2. Average postoperative BMI decreased significantly at 1, 3, 6, 12 months. All obesity-related co morbidities improved significantly at 1 year after LSG

Conclusion:

This study suggests that LSG is safe and effective for adolescent patients, resulting in significant short-term weight loss, comorbidity remission during up to 12 months of follow-up. However, long-term data are necessary to evaluate persistence of weight loss and maturation to adulthood

Keywords: Adolescent obesity, Laparoscopic sleeve gastrectomy, Early result

O-108

EFECTIVIDAD DE LOS ANALOGOS DE GLP-1 EN REGANANCIA POST CIRUGIA BARIATRICA

Management of weight regain after surgery

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Introduction:

La reganancia de peso post cirugia bariatrica se puede ver entre el 2 al 5 año de cirugia y puede ser de 2-5% year old. Los analogos de la GLP-1 han mostrado ser eficaces en el manejo de la reganancia y cada vez hay más artículos que demuestran que el manejo farmacológico junto con el conductual permiten que el paciente vuelva a metas sin necesidad de cirugia.

Objetivos:

Mostrar como el uso de análogos de la GLP-1 son efectivos en el manejo de reganancia post cirugia bariatrica

Metodos:

15 pacientes entre los 22 a 63 años con antecedente de cirugía bariatrica (sleeve gastrico o bypass gastrico) consultaron para manejo entre junio del 2018 a marzo diciembre 2020. Todos los pacientes se les realizó manejo interdisciplinario con nutrición y medición de composición corporal por impedanciometría, antropometría, fisiatra, psicólogo conductual y se inició Liraglutide a dosis de 0,6 a 3 mg secuencial.

Results:

Los pacientes estaban así distribuidos según su IMC: 83% Obesidad tipo I,17 % obesidad tipo II, 95 % tenían sleeve gastrico y 5% bypass gastrico. El 29% llegaron a dosis tope de 3 mg día, el 58% United States ron dosis entre 0,6 y 1,2 y 13% dosis entre 1,8 y 2,4,g. Los efectos adversos más frecuentes fueron estreñimiento, diarrea, reacción cutánea y eruptos. El tratamiento tuvo una duración entre 6 meses y 1 año. La pérdida de peso fue 58% de los pacientes hasta 15 kg y el 42% hasta 20kg. El porcentaje de grasa visceral perdido por todo el grupo fue 10 a 20 cm y grasa corporal entre 3 a 7 kg. El seguimiento hasta el momento es de 24 meses sin reganancia en los que se descontinuo el medicamento. y no fue necesario recurrir a revisión de la cirugía.

La mejoría en el perfil metabólico con disminución de colesterol triglicéridos, niveles de glicemia y transaminasas fue el 90% en los primeros 3 meses de seguimiento. Además de la mejoría a nivel mecánico, pues con el ejercicio dirigido y fortalecimiento ningún paciente presentó dolor en rodillas o talones a los 3 meses de tratamiento y disminución de peso.

Conclusion:

La utilización de medidas farmacológicas asociado a cambios en los hábitos alimetarios, ha demostrado ser muy eficaz en la pérdida de peso, los beneficios de la liraglutida en el manejo coadyuvante han sido evidentes frente a otras medidas farmacológicas. Los analogos GLP-1 permiten reducir porcion, manejo en el centro de la recompensa lo cual favorece la pérdida de peso sin necesidad de cirugia

O-109

EFECTIVIDAD DE UN PROGRAMA DE TELERREHABILITACIÓN EN CIRUGÍA BARIATRICA Y BALÓN ELIPSE: EFECTOS EN LA PÉRDIDA DE PESO, IMC, CAPACIDAD AERÓBICA Y FUERZA MUSCULAR

Physical activity, sedentary behavior, and bariatric surgery

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Antecedentes / Introducción:

La telerehabilitación se refiere al uso de tecnologías de la información y la comunicación (TIC) para proporcionar servicios de rehabilitación a personas de forma remota en sus hogares u otros entornos. Mediante el uso de las TIC, se puede mejorar el acceso de los pacientes y el alcance de los profesionales, ampliando así la continuidad de la atención en pacientes intervenidos por cirugía bariatrica o balón ingerible elipse.

Objetivos:

Proporcionar de manera remota un programa de intervención post cirugia bariatrica y balon elipse, basado en un conjunto de medidas que lleven a la adquisición de un estilo de vida y pérdida de peso saludable y la mejoría de su condición física.

Método:

Estudio transversal que incluyó a 24 sujetos chilenos con obesidad y sobrepeso de entre 23 y 53 años, de los cuales 12 fueron intervenidos por cirugía bariatrica, de tipo gastrectomía en manga, y los otros 12 sujetos mediante balón ingerible elipse.Los sujetos fueron seleccionados bajo un criterio no probabilístico intencionado e ingresaron al programa de telerehabilitación,derivados por su cirujano bariátrico. Se evaluó al inicio y final de la intervención la capacidad aeróbica, medida por test de marcha de dos minutos (2min), fuerza de tren superior a través de prueba de flexión de codo (FC) y fuerza de tren inferior a través de la prueba de sentarse y levantarse de la silla (SL). Se realizaron en total 12 sesiones de telerehabilitación de manera sincrónica.

Resultados:

Se logró al finalizar el programa de telerehabilitación, en los pacientes intervenidos por cirugía bariatrica, una pérdida promedio de 7,3 kg de peso corporal, con un incremento de la capacidad aeróbica, fuerza de tren superior e inferior. En el grupo de balón elipse una pérdida promedio de 6 kg de peso corporal con mejoría de la capacidad aeróbica y fuerza de extremidades.

Conclusión:

Aunque solo se investigó un número relativamente limitado de Resultados: , el presente estudio muestra que un programa de telerehabilitación post intervención inmediata en pacientes sometidos a cirugía bariatrica y balón elipse, es efectivo en la reducción del peso corporal, IMC, en la mejoría de la capacidad aeróbica y fuerza muscular, asociándose con efectos multisistémicos positivos, en particular, beneficios músculo-esqueléticos y capacidad aeróbica, que pueden influir favorablemente en su bienestar general y mejorar el nivel de autonomía en la realización de actividades de la vida diaria.

O-110

EFFECT OF OPERATIVE TIMES IN BARIATRIC SURGERY ON OVERALL OUTCOMES: A MATCHED ANALYSIS OF THE METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM DATABASE

Post-operative complications

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Introduction:

Operative time (OT) and its correlation to complications has been described among various surgical specialties. However, the association of OTand morbidity in the field of bariatric surgery is not well elucidated.

Objective:

Our goal was to assess operative time in both sleeve gastrectomy (SG) and roux-en-y gastric bypass (RYGB) patients and its association with post-operative morbidity.

Methods:

A retrospective review of the MBSAQIP (2015-2019) database was performed.Then SG and RYGB were divided into Group 1<median time<Group 2. For each procedure, Group 1 and Group 2 were compared for surgery complications and outcomes. To reduce any selection bias and risk of confounders, we performed a propensity score matching (PSM) for 25 variables including the assistant level. In the PSM matched cohort, 18915 SG and 6,495 RYGB patients were included in each group.

Results:

A total of 358,382 SG and 123,357 RYGB were identified. The median OT was 68 minutes and 113 minutes for SG and RYGB, respectively. In the SG cohort, there were higher rates of Clavien-Dindo Class 1, 2, 3a, 4 and 5 complications as well as higher rates of readmission, reoperation and reintervention in the Group 2 (longer OT). After PSM, Group 2 continued to have higher rates of Clavien-Dindo Class 2 complications and higher rates of readmission and reoperation (Table 1). For the RYGB cohort, there were higher rates of all Clavien-Dindo Class complications as well as higher rates of readmission, reoperation and reintervention in Group 2 (p value) After completing the PSM for the RYGB group, there were higher rates of Clavien-Dindo Class 3a complications and higher rates of readmission and reintervention (p value) (Table 2).

Conclusions:

After propensity score matching across 25 variables, longer OT was found to be associated with a higher rate of morbidity in both SG and RYGB.

	All Cohort (Pre-Match)			PSM Cohort (Post-Match)		
	SG Group 1	SG Group 2		SG Group 1	SG Group 2	
30-Day Outcome	211207	147275	p-value	18915	18915	p-value
Clavien-Dindo Class						
Grade 1	403 (0.2%)	419 (0.3%)	0.00	39 (0.2%)	58 (0.3%)	0.07
Grade 2	2058 (1.0%)	1728 (1.2%)	0.00	176 (0.9%)	228 (1.2%)	**0.01**
Grade 3a	38 (0%)	45 (0%)	0.02	5 (0%)	7 (0%)	0.77
Grade 3b	158 (0.1%)	150 (0.1%)	0.23	15 (0.1%)	16 (0.1%)	1.0
Grade 4a	245 (0.1%)	263 (0.2%)	0.00	14 (0.1%)	10 (0.1%)	0.54
Grade 4b	1341 (0.6%)	1477 (1.0%)	0.00	106 (0.6%)	130 (0.7%)	0.13
Grade 5	115 (0.1%)	110 (0.1%)	0.02	9 (0%)	8 (0%)	1.0
Readmissions	5302 (2.5%)	4553 (3.2%)	0.00	438 (2.3%)	555 (2.9%)	**0.00**
Reoperation	1517 (0.7%)	1261 (0.9%)	0.00	116 (0.6%)	152 (0.8%)	**0.03**
Reintervention	1363 (0.6%)	1388 (1.0%)	0.00	134 (0.7%)	143 (0.8%)	0.63

Table 1: 30-Day complications and outcomes comparing Sleeve Gastrectomy (SG) Group 1 (Operation time less than 68 minutes) and Sleeve Gastrectomy (SG) Group 2 (Operation time greater than 68 minutes) before and after propensity score matching (PSM).

	All Cohort (Pre-Match)			PSM Cohort (Post-Match)		
	RYGB Group 1	RYGB Group 2		RYGB Group 1	RYGB G2	
30-Day Outcome	74970	57287	p-value	6495	6495	p-value
Clavien-Dindo Class						
Grade 1	478 (0.6%)	584 (1.0%)	0.00	44 (0.7%)	64 (1.0%)	0.14
Grade 2	1388 (1.9%)	1219 (2.1%)	0.00	123 (1.9%)	126 (1.9%)	0.99
Grade 3a	83 (0.1%)	85 (0.1%)	0.07	6 (0.1%)	18 (0.3%)	**0.02**
Grade 3b	76 (0.1%)	101 (0.2%)	0.00	6 (0.1%)	9 (0.2%)	0.61
Grade 4a	193 (0.3%)	184 (0.3%)	0.04	8 (0.1%)	8 (0.1%)	1.0
Grade 4b	1130 (1.5%)	1234 (2.2%)	0.00	96 (1.5%)	109 (1.7%)	0.71
Grade 5	79 (0.1%)	94 (0.2%)	0.00	7 (0.1%)	6 (0.1%)	1.0
Readmissions	3673 (4.9%)	3611 (6.2%)	0.00	285 (4.4%)	393 (6.1%)	**0.00**
Reoperation	1444 (1.9%)	1314 (2.3%)	0.00	122 (1.9%)	155 (2.4%)	0.05
Reintervention	1370 (1.8%)	1389 (2.4%)	0.00	105 (1.6%)	160 (2.5%)	**0.00**

Table 2: 30-Day complications and outcomes comparing Roux-en-Y gastric bypass (RYGB) Group 1 (Operation time less than 113 minutes) and Roux-en-Y gastric bypass (RYGB) Group 2 (Operation time greater than 113 minutes) before and after propensity score matching (PSM).

O-111

EFFECT OF PREOPERATIVE ORAL CARBOHYDRATE LOADING ON INSULIN RESISTANCE OUTCOME IN BARIATRIC SURGERY PATIENTS: A RANDOMIZED, CONTROLLED TRIAL

Enhanced recovery in bariatric surgery

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Introduction:

Enhanced Recovery After Surgery (ERAS) protocol in bariatric surgery is well-accepted worldwide. Preoperative oral carbohydrate loading is one of the components of ERAS protocol which has scarce data in bariatric patients. Preoperative fasting increases insulin resistance and inflammatory stress responses which can be reduced by preoperative oral carbohydrate loading.

Objectives:

This study aimed to evaluate the effect of preoperative oral carbohydrate loading on insulin resistance and inflammatory outcomes compare with conventional fasting protocol.

Methods:

We conducted this study between October 2021 to February 2022. Morbidly obese patients underwent bariatric surgery, either sleeve gastrectomy or Roux-en-Y gastric bypass were randomized to intervention group and control group. The intervention group received 2 doses of oral carbohydrate loading, the night before and 3 hours prior to surgery. In the control group, patients received 2 doses of water in the same fashion as the intervention group. Primary outcome was insulin resistance, measured by homeostasis model assessment-estimated insulin resistance (HOMA-IR) index. Secondary outcomes were interleukin-6 (IL-6) and C-reactive protein (CRP) level. We measured HOMA-IR index, IL-6 and CRP level at preoperative, postoperative day 1, 3 and 14.

Results:

20 patients were enrolled in this analyzes (10 patients in intervention group, 10 patients in control group). The median difference of HOMA-IR index from preoperative was 2.6 in intervention group and 2.29 in control group (p = 0.45) in postoperative day 3. In postoperative day 14, 5.52 in intervention group and 2.09 in control group (p = 0.082).

Conclusion:

Preoperative oral carbohydrate loading has no difference in insulin resistance and inflammatory outcomes in bariatric surgery patients. Increasing in number of patients may alter the results. Further studies should be conduct for other clinical outcomes.

Keywords: bariatric surgery, oral carbohydrate loading, insulin resistance.

O-112

EFFECT OF SLEEVE GASTRECTOMY ON MORBID OBESITY WITH TYPE 1 DIABETES MELLITUS; CASE SERIES, LITERATURE REVIEW AND META-ANALYSIS

Sleeve gastrectomy

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Background:

The aim of this study was to report our experiences of sleeve gastrectomy (SG) in obese patients with type 1 diabetes mellitus (T1DM) and to assess its metabolic outcomes through a review of the literature and a meta-analysis.

Methods:

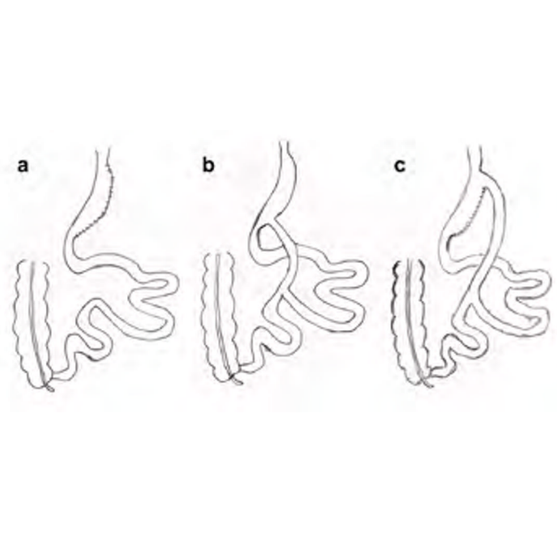
We conducted a retrospective review of the electronic medical records of all patients who underwent bariatric surgery between January 2008 and February 2019 at a single institution. A literature search was performed using PubMed, Cochrane library, and Embase, and a meta-analysis for each direct comparison between pre- and postoperative groups was performed using the random effects DerSimonian–Laird method.

Results:

We identified three obese patients with T1DM who underwent SG. The baseline body mass index (BMI), HbA1c, and total daily insulin dose was 40.8 (37–47.4) kg/m2, 7.1 (6–7.7) %, and 92.3 (54–113) units, respectively. After surgery, the BMI and total daily insulin dose reduced to 32.2 (30.2–37.6) kg/m2 and 22.3 (12-40) units, respectively. However, the HbA1c increased to 7.8 (5.4–10.8) %. In the meta-analysis, the weighted mean reduction in BMI, HbA1c, and total daily insulin dose were 10.69 kg/m2 (95% CI 7.01–14.37, p<0.00001, I2=0%), 0.3% (95% CI -0.10–0.71, p=0.1447, I2=0%), and 58.52 units (95% CI 15.96–101.08, p=0.07, I2=0%), respectively.

Conclusion:

SG showed excellent weight-reducing effects during a short follow-up period in obese patients with T1DM and improved the glycemic control by reducing insulin requirement.



O-113

EFFECT OF THE COVID-19 LOCKDOWN ON EXERCISE HABITS AND WEIGHT-LOSS IN A BARIATRIC COHORT

Bariatric surgery in children, adolescents and young adults

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Introduction:

Lifestyle modifications in diet and exercise habits have long been key to success after bariatric surgery. Although sustainable weight loss tends to occur over a period of years, early postoperative weight can predict long-term success.

Objectives:

We sought to evaluate the impact of the “Stay-at-Home” (March 16, 2020) executed at the beginning of the COVID-19 pandemic on the exercise habits and early post-operative weight loss at 1 year in a bariatric cohort.

Methods:

All patients who underwent bariatric surgery from January 1, 2020, to March 12, 2020, at Montefiore were included in the analysis. Patients who underwent bariatric surgery during the same time period of the two preceding years (2018 and 2019) were included as control groups. The student’s T□test and Chi squared test were used for continuous and categorical variables, respectively. Additionally, phone interviews were made the 2020 cohort to assess for the effects on exercise of the stay-at-home order.

Results:

A total of 596 patients were included: 181 from 2020, 199 from 2019, and 216 from 2018. The cohorts were well matched for comorbidities. Of those interviewed, 62.5% reported decreased exercise due to the lockdown. The %EBMIL at 1 year was 64.1% for 2020, and 64.9% for 2018 and 2019. There was no statistically significant difference in weight loss at 1 year (p=0.77) despite a marked decrease in exercise activity in those who had surgery just before the pandemic.

Conclusion:

This data suggest that exercise may have less of an impact on early weight loss than previously thought. However, we maintain that exercise is likely very important in the long-term success of bariatric surgery.

O-114

EFFECTIVENESS OF INTRAGASTRIC BALLOON AS BRIDGING THERAPY PRIOR TO BARIATRIC SURGERY FOR SUPER-OBESE PATIENTS

Perioperative management

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Introduction:

Super obesity is associated with metabolic syndrome and poor response to conservative therapies for weight loss. Bariatric surgery is an ideal intervention for super obese patients but can be technically challenging due to the large left lobe of liver, thick mesentery, and difficult bowels mobilization.
There are trials of bridging therapies such as a long course of very low-calorie diet, exercise regime, and intragastric balloon (IGB) to reduce the BMI of super obese patient to reduce technical challenges during bariatric procedures.

Objective:

This study aims to conduct a systematic review and meta-analysis of the effectiveness of intragastric balloon as a bridging therapy prior to bariatric surgery for super obese patients, and potential complications peri-insertion of the intragastric balloon.

Method:

2 independent reviewers performed a literature search of MEDLINE, EMBASE, Web of Science, and Cochrane databases from inception to March 2021. Studies were included if they reported the use of IGB as bridging therapy prior to definitive bariatrics surgery. Keywords included “gastric balloon”, “super-obese”, and “bridging therapy”. Amongst 1720 citations, 17 studies showed the effect of intra-gastric balloon as bridging therapy.

Results:

17 studies involving 714 patients (mean baseline BMI 59.6 kg/m2) were analyzed, with most (96%) receiving the Orbera IGB. Patients had the balloon placed for a mean duration of 5.48 months. Bridging with IGB resulted in a BMI reduction of 6.36+/-5.74 kg/m2. 21 patients suffered from Grade III/IV complications, according to the Clavien-Dindo classification, and 1 mortality.

2 RCTs also compared IGB as a bridging therapy against a control group of diet and/or physical exercise. IGB resulted in superior BMI reduction of 6.04 kg/m2 compared to 1.00kg/m2 achieved by control group. IGB did not show significant increase in post bariatric surgery complications compare to control group.
483 patients then proceeded to bariatric surgery, which included Roux-en-Y Bypass, Sleeve Gastrectomy, Gastric

Banding, Biliopancreatic Diversion with Roux-en-Y reconstruction.

One limitation of the study is that most of the studies used Obera balloons. There are newer balloons that are more tolerable with fewer complications and compliance issues.

Conclusion:

Gastric balloon placements is effective as a bridging therapy despite technological and technical improvements in laparoscopic bariatric surgery.

O-115

EFFECTIVENESS OF SYDNEY PROTOCOL FOR SCREENING H. PYLORI INFECTION FOLLOWING LAPAROSCOPIC SLEEVE GASTRECTOMY.

Endoscopy and surveillance after bariatric surgery

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Background:

It has been well documented that Sydney protocol has been the standard for the diagnosis of Helicobacter pylori infection, however in patients who has undergone laparoscopic sleeve gastrectomy this protocol is insufficient for the diagnosis of the infection. At this moment there no recommendations or protocol that states how many biopsies this type of patients requires.

Objective:

To compare the effectiveness of Sydney protocol (group A) versus an extended Sydney protocol (group B) screening of Helicobacter pylori infection in patients who had undergone sleeve gastrectomy.

Method:

This study was conducted on 60 patients at a single center from 2017 to 2019 who had undergone sleeve gastrectomy (SG). We complied with all the protocols for carrying out procedures involving human participants. Twelve months after surgery a randomized study was performed, taking Antigen Stool test as the baseline and gastroduodenal endoscopy with biopsies were taken dividing our population in two groups; group A underwent four biopsies (two from antrum, one from incisura and one from lesser curve) and group B six biopsies were performed (two from antrum, one from incisura, one lesser curve and 2 of staple line).

Results:

A baseline analysis (demographic, endoscopic findings, histologic results and weight-loss) was obtained, almost all data were homogenous at baseline; mean age 43.8 years, mean BMI of 44.4 kg/m2, patients infected in group A 40% versus group B 44% (p= 0.605). ROC curves were plotted showing that Sydney protocol (group A) had 78.6% sensitivity and 100% specificity (AUC 0.893, p= 0.000), modified Sydney protocol had 83.3% sensitivity and 100% specificity (AUC 0.917, p= 0.000).

Conclusion:

Our study the presence of Helicobacter pylori was confirmed in both groups, however extended Sydney protocol proved to be more effective because it has better sensitivity for screening the infection, but the same specificity as the traditional Sydney protocol. Further studies are required for establishing an adequate protocol for the diagnosis in patients that had undergone vertical sleeve gastrectomy.

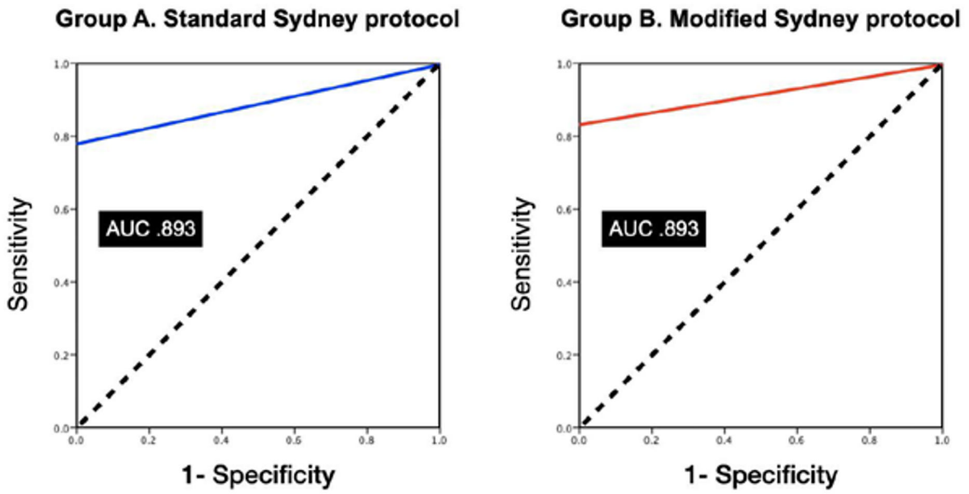

Fig. 1 ROC curves of Standard Sydney protocol for the diagnosis of *Helicobacter pylori*. Plotted ROC (receiver operating characteristic) curves of Sydney protocol: sensitivity = 78.6%, specificity = 100%, p = 0.000, AUC (area under the curve) = 0.89.3. Modified Sydney protocol: sensitivity = 83.3%, specificity = 100%, p = 0.000, AUC (area under the curve) = 0.917.

O-116

EFFECTS OF ONE-ANASTOMOSIS-GASTRIC BYPASS COMPARED TO SLEEVE GASTRECTOMY ON DIABETES MELLITUS ACCORDING TO ITS SEVERITY USING AN INDIVIDUALIZED METABOLIC SURGERY SCORE

Type 2 diabetes and metabolic surgery

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Objective:

To compare the effect of one-anastomosis-gastric bypass (OAGB)and sleeve gastrectomy (SG)on blood sugar (FBS) control and improvement of type 2 diabetes (T2DM) according to its severity.

Background:

One-anastomosis-gastric bypass (OAGB) and sleeve gastrectomy (SG) account for the vast majority of bariatric procedures in the Middle East in patients with T2DM. However, there are no clear guidelines to determine which procedure is more effective for long-term blood glucose control in this group of patients.

Methods:

We reviewed the files of 175 patients with T2DM who underwent OAGB and SG in a bariatric center at an academic hospital who had a minimum of2-year follow-up. Data collected included general demographics of the patients, type of the procedure, preoperative and postoperative number of anti-diabetic medications (oral and insulin), HBA1C and FBS. Patients were classified into three groups according to severity of T2DM using an Individualized Metabolic Surgery (IMS) score that was previously validated in another study.

Results:

At a median postoperative follow-up of 4 years (range 1-7), diabetes remission (HbA1C <6.5% off medications) was observed in 61.7% after OAGB and 23.8% after SG (P < 0.005). IMS score was used to divide patients into three groups. In mild T2DM (IMS score ≤25), both procedures significantly improved T2DM. In moderate (25< IMS score >95) T2DM, both procedures showed to be effective in improving diabetes with better outcomes for OAGB than SG. In severe (IMS score >95) T2DM, both procedures showed to be less effective in T2DM resolution but with more promising results in OAGB than SG.

Conclusions:

Using a scoring system to stage T2DM according to severity, OAGB seems to be effective in improving T2DM and controlling blood sugar in all stages, while SG showed good outcomes in patients with mild T2DM but not in those in the severe category.

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ORAL ABSTRACTS

O-117

EFFECTS OF POST-SURGICAL PREGNANCY ON WEIGHT LOSS TRAJECTORIES AFTER BARIATRIC SURGERY: ARE INITIAL WEIGHT AND AGE PROGNOSTIC FACTORS?

Fertility, pregnancy, nutrition and bariatric surgery

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Introduction:

A substantial percentage of patients undergoing bariatric surgery are of childbearing age. Pregnancy outcomes after bariatric surgery are known. However, there is limited data on the impact of pregnancy on weight loss after surgery.

Objectives:

This study aims to evaluate the effects of pregnancy on post bariatric surgery weight loss trajectories (WLT) and to determine the association with age and initial weight.

Methods:

All who had primary bariatric surgeries between September-2015 and July-2020 were classified in two groups: post-surgery gravid (GG) and post-surgery non-gravid (NG). WLT were examined using a random intercept mixed-effects model with repeated measures nested within patients. (Figure 1) The post-surgery/pre-gravid time phase (PoPG) was modelled using a third-degree polynomial. For GG, two third-degree spline functions modeled the post-surgery while gravid (PoWG) and post-partum (PoPP) time phases. Age and initial weight were used to control for pre-existing differences during PoPG. Weight differences 6-months PoPP were examined by applying general linear hypothesis testing to the mixed-model results. Results: A total of 508 patients were included, 20 in GG and 488 in NG. The mean age at surgery was 33 years in GG and 37 years in NG. The mean initial BMI was 47 kg/m2 and 43 kg/m2, respectively. During PoPG, adjusted average weight in both groups follows the path across time (Table 1, P1). For GG, weight decreases then increases during PoWG (Table 1, P2). For GG during PoPP, weight immediately decreases after delivery, then increases over time to levels similar to NG (Table 1, P3). Weight differences 6-months PoPP for GG and NG were not statistically different. Older age was associated with reduced weight loss during PoPG (Table 1, M, Days Post-Op (linear) by Baseline Age), while higher initial weight was associated with increased weight loss during PoPG (Table 1, M, Days Post-Op (linear) by Baseline Weight). In both instances, these effects attenuate over time (Table 1, M, Age and Weight quadratic terms).

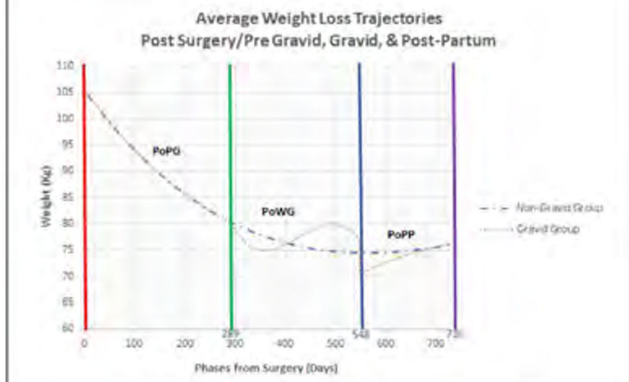
Conclusions:

Our model suggests that pregnancy after bariatric surgery affects WLT during PoWG and PoPP, and no difference in weight is expected after 6-months post-gravid. Age and initial weight could be considered prognostic factors during PoPG. Patients wishing to conceive should be advised to avoid pregnancy during the period of rapid weight loss and informed that WLT may vary during pregnancy and early post-partum.

Table 1. WLT: Mixed-Effects Results

Model Section Code	Model Section Name (Group)		Trajectory Parameter Name	Estimate	Std. Error	df	t	p	95% CI of Estimate Min	95% CI of Estimate Max
P1	Phase 1 (Post-Surgery/pre-gravid)	Common	Wt at Day 0 (Intercept)	105.396	0.199	723.235	530.785	<.001	105.007	105.786
			Days Post-Op (linear)	-0.129	0.001	6626.618	-127.108	<.001	-0.131	-0.127
			Days Post-Op (quadratic)	1.65E-04	2.10E-06	6566.227	78.753	<.001	1.61E-04	1.69E-04
			Days Post-Op (cubic)	-5.97E-08	1.10E-09	6540.807	-54.491	<.001	-6.19E-08	-5.76E-08
P2	Phase 2 (Post-surgery while gravid)	GG	Days Gravid (linear)	-0.126	0.043	6649.979	-2.944	.003	-0.210	-0.042
			Days Gravid (quadratic)	0.002	0.001	6562.778	2.837	.005	4.81E-04	0.003
			Days Gravid (cubic)	-3.59E-06	1.64E-06	6533.897	-2.428	.015	-7.22E-06	-7.70E-07
P3	Phase 3 (Post-partum)	GG	Wt change at Post-partum (Intercept)	-6.386	4.121	6511.170	-1.550	.121	-14.463	1.692
			Days Post-partum (linear)	0.170	0.099	6518.712	1.716	.086	-0.024	0.365
			Days Post-partum (quadratic)	0.001	0.001	6510.628	1.873	.061	-6.47E-05	0.003
			Days Post-partum (cubic)	4.08E-06	1.65E-06	6534.923	2.476	.013	8.50E-07	7.30E-06
M	Phase 1 Trajectory Controls/Moderators	Baseline Age	Wt at Day 0 (Intercept) by Baseline Age	0.031	0.016	657.887	1.932	0.054	0.000	0.063
			Days Post-Op (linear) by Baseline Age	0.001	4.67E-05	6661.029	17.322	<.001	0.001	0.001
			Days Post-Op (quadratic) by Baseline Age	-5.59E-07	4.63E-08	6586.543	-12.068	<.001	-6.50E-07	-4.69E-07
		Baseline Weight	Wt at Day 0 (Intercept) by Baseline Weight	0.962	0.011	647.513	89.521	<.001	0.941	0.983
			Days Post-Op (linear) by Baseline Weight	-0.001	2.83E-05	6647.054	-24.113	<.001	-0.001	-6.26E-04
			Days Post-Op (quadratic) by Baseline Weight	4.70E-07	2.54E-08	6592.478	18.471	<.001	4.20E-07	5.19E-07

Figure 1. Average Weight Loss Trajectories.



*6-months post-partum: (expected difference between GG and NG=.21, *p*=.857)

Red line = time of surgery
Green line= gravid/ aka pregnant phase begins
Blue line= delivery/ postpartum phase begins
Purple line= Last follow up after surgery

O-118

EFFECTS OF WEIGHT REDUCTION SURGERY ON AUTOIMMUNE DISEASES: RETROSPECTIVE ANALYSIS

Type 2 diabetes and metabolic surgery

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Background:

Obesity is a serious disease, with substantial morbidity and mortality. Bariatric surgery has shown to be effective to control diabetes mellitus type 2, hypertension, and other obesity-related comorbidities. However, there are no data regarding any possible effect of bariatric surgery on autoimmune diseases and other rare diseases.

Objective:

To determine whether weight-reduction surgery can have an effect on autoimmune diseases or not.

Patients and methods:

We reviewed the files of 27 patients with autoimmune diseases who underwent bariatric surgery in a bariatric center at an academic hospital and had a minimum of 2-year follow-up. Data collected included general demographics of the patients, type of the procedure, preoperative and postoperative number of medications needed to control the disease.

Results:

Patients included 6 patients with rheumatoid arthritis, 7 patients with psoriasis, 4 patients with gout, 4 patients with vitiligo, 3 patients with SLE and 3 patient with multiple sclerosis.
Improvement was noticed among the majority of these patients in the form of decreased number of medications (including cortisone) needed to control the disease, decreased number of relapse requiring hospital admissions,prolonged remission and decrease in the number of disease related complications.

Conclusion:

Bariatric surgery seems to have a positive role in controlling and improving autoimmune related diseases. Further studies with larger number of patients and longer follow-up are needed to confirm these results.

O-119

EFFICACY AND SAFETY OF FONDAPARINUX FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN BARIATRIC PATIENTS WITH DIFFERENT BMI

Cardiovascular risk and bariatric surgery

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Introduction:

The American and European guidelines recommend Venous Thromboembolism (VTE) chemoprophylaxis post bariatric surgery, as those patients are in a moderate to high risk of developing thrombosis. Nonetheless, there is no consensus on the agent to be used for these cases. Fondparinux, an inhibitor of factor Xa, has been used as in preventing DVT generally in postoperative patients, but no clear data about its role in bariatric patients.

Objectives:

To study the efficacy and safety of Fondaparinux in prophylaxis against VTE in patients undergoing bariatric surgery.

Methods:

We reviewed the medical records of patients who underwent bariatric surgery in our unit between January 2015 and March 2018 and who had Fondaparinox for VTE prophylaxis.In our hospital protocol, we use pneumatic compression devices intraoperatively and Fondaparinux 2.5mg S.C. once daily for five days starting six hours post-surgery regardless of body mass index (BMI). We do not put any hemostatic agents routinely and we do not use any staple line reinforcement method.In addition, we use mechanical per operative DVT prophylaxis in all patients. We use abdominal drain in some, but not all cases.

Results:

We reviewed the files of 348 who received Fondaparinux Post-surgery. 114(32.75%) were males and 234 were females (67.24%). Mean age was 34 years old. 151 had sleeve gastrectomy (43.39%), 170 mini gastric bypass surgery (48.85%), and 9had Roux en Y (2.58%). Mean initial BMI was 44.2kg/m2. Eighty-four patients had no drain placed (22.7%), while 249 had a drain for one day (71.55%), 10 had the drain for two days (2.87%), and two had drains for seven days (0.57%). Mean preoperative and postoperative hemoglobin was 12.56 and 12.26 respectively. Three patients (0.86%) had increased bloody drainage in the drain that stopped spontaneously without any need for blood transfusion or surgical intervention. After one month follow up, there were no cases of VTE, other morbidity or mortality reported in these patients.

Conclusion:

Fondaparinux, as a single daily dose of 2.5mg subcutaneous for five days, is effective and safe to be used in patients with different BMI after bariatric surgery in regards to VTE prophylaxis and risk of bleeding regardless of BMI. Further studies can be helpful in determining the exact role of Fondaparinox in bariatric surgery.

O-120

EFFICACY AND SAFETY OF LAPAROSCOPIC CONVERSION OF FAILED VERTICAL BAND GASTROPLASTY TO LAPAROSCOPIC MINI-GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background/Introduction:

Obesity has become one of the most important health issues in developing and developed countries, with dramatic increase over the last decades. Morbid obesity is associated with serious comorbidities, such as type 2 diabetes, hypertension, arthritis, and sleep apnea, which cause an estimated 6 to 12 times greater mortality rate than the normal populations. Bariatric surgery is the only method for sustained weight loss in morbid obesity. However, 10-25% of patients will require re-operation for unsatisfactory weight loss or weight regain after restrictive surgery. Re-operation is associated with higher morbidity and mortality.

Objectives:

The objective of the current study is to evaluate the safety and efficacy of laparoscopic mini-gastric bypass (LMGB) as convention surgery for failed vertical banded gastroplasty (VBG).

Methods:

From February 2018 to November2021, 43 consecutive patients underwent LMGB for failed VBG. Average age was 32.4 years (range 21 to 49) and average BMI before re-operation was 42.6 kg/m2. There were 18 male and 25 female patients. All the patients underwent complete preoperative work-up, including blood chemistry, endocrine status, abdominal ultrasound, upper gastrointestinal barium studies, and gastroendoscopy. Visits to a psychiatrist and dietician were arranged, and explanations for a clear understanding of the benefits, risks, and long-term consequences of a malabsorptive procedure were done. The LMGBs were essentially the same as described by Rutledge technique.

All patients received a quality-of-life questionnaire evaluation at their preoperative and postoperative follow-up at 6 months using the Gastrointestinal Quality-of-Life Index (GIQLI).

Results:

All the re-operations were completed laparoscopically. Average operative time was 164.5 minutes (range 140 to 280). All the patients were followed regularly every 3 months, and the mean BMI at 1 year after the LMGB was 31.6 kg/m2 ($P<0.001$ compared with BMI before revision). Three patients (3.9%) complained of epigastralgia and marginal ulcers were diagnosed by endoscopy. A proton-pump inhibitor was prescribed, and all the ulcers healed on medical treatment.

Conclusion:

Based on the results of the current study, LMGB is an effective and safe revision operation for patients with failed VBG with excellent weight loss and accepted improvement in other causes of failure of VBG.

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O-121

EFFICACY OF GASTRIC SLEEVE ENDOSCOPIC PLICATION PROCEDURE (GESP) IN PATIENTS WITH OBESITY PREVIOUSLY TREATED WITH PRIMARY OBESITY SURGERY ENDOLUMINAL (POSE®): REPORT OF CASES AT 12 MONTHS FOLLOW-UP

Endoscopic and percutaneous interventional procedures

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Background:

Gastric sleeve endoscopic plication (GESP) is an evolution of Primary Obesity Surgery Endoluminal (POSE). Both endoscopic gastric procedures are defined as an endoscopic remodeling procedure to reduce gastric volume in order to provide durable weight loss. Data concerning of efficacy novel GESP are rather scarce in patient previously treat with POSE.

Objective:

We report the cases of GESP in patients with weight regain who were previously treated obesity with POSE and evaluated its efficacy after 12 months.

Method:

Retrospective study of six cases of patients previously treated with POSE who regained weight and underwent to a new procedure using GESP. All procedures were performed by a single operator using a suture pattern with an average of 13 plications distributed in the gastric body. The patients were followed for 12 months after procedure. The outcomes to assess the efficacy were weight loss (% of total body weight loss (TBWL%) and excess weight loss % (EWL%).

Results:

The median age was 52 years ± 9.2 years and main sex was female (66,7%). The percentage of excess weight loss (%EWL) was 40% (95% CI, 29.43-51.45, $p < 0.0001$) and total body weight loss (%TBWL) was 13,86% (95% CI, 10.01-17.24, $p < 0.0001$) at 12 months of follow-up.

Conclusion:

GESP is an effective alternative for weight reduction in patients who were previously treated with POSE. At 12 months of follow- up, GESP appears to be an effective option for managing weight regain. More long-term studies are needed.

Table 1

Characteristics of the study sample

	n = 6
Age (years)	52
Weight (kg)	91.71
BMI	33.34
EWL (kg)	31.91
No. Sutures POSE	9.86
No. Sutures	13.14

Table 2

%EWL and %TBWL during follow-up

	3 m	6 m	12 m
%EWL	23.23%	32.74%	40%
%TBWL	8.01%	11.24%	13.86%

Weight loss (%EWL). Total body weight loss (%TBWL)

O-122

EFFICACY OF OMENTOPEXY IN REDUCING POSTOPERATIVE GASTROINTESTINAL SYMPTOMS DURING LAPAROSCOPIC SLEEVE GASTRECTOMY

Sleeve gastrectomy

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Background/Introduction:

Laparoscopic sleeve gastrectomy (LSG) has become a single-step operation for the management of severe obesity. A statistically significant number of participants who undergo this procedure experience nausea, vomiting, and reflux symptoms early after the operation. Excitation of old or new gastroesophageal reflux and anorexia are the most common complications after LSG. These complications may have considerable effects on quality of life and may require conversion to another operation, such as Roux-en-Y gastric bypass (RYGB).

Objectives:

The objective of the current study is to assess the efficacy of omentopexy during laparoscopic sleeve gastrectomy (LSG) in reducing postoperative food intolerance and GI symptoms.

Methods:

Morbidly obese patients undergoing LSG were randomly assigned to have LSG with or without omentopexy from February 2018 to November 2021. 36 consecutive patients with age range from 21 to 49 were enrolled in the study. All procedures were performed by one of two surgeons utilizing the same surgical technique. Patients were administered standardized surveys, including the Rhodes Index survey, gastroesophageal reflux disease (GERD) impact survey, and Eating Assessment Tool (EAT) survey at various time points postoperatively to assess nausea, vomiting, retching, frequency of GI symptoms, and level of distress.

Results:

There was a significant difference between the two groups regarding nausea, vomiting, reflux symptoms, and the amount and frequency of antiemetics used ($p < 0.001$). There was also a significant difference in hospital readmissions ($p < 0.05$) and in clinic visits during the postoperative period.

Conclusion:

Based on the results of the current study, Patients who underwent gastropexy showed a significant reduction in antiemetic consumption and a significantly lower incidence of postoperative nausea, vomiting, gastroesophageal reflux disease symptoms and gastric torsion than those who did not undergo gastropexy.

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O-123

EL ENTRENAMIENTO BASADO EN HIPERTROFIA MUSCULAR DETIENE Y MEJORA LA PÉRDIDA DE MASA MUSCULAR

Bariatric training

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Introducción

Evaluar el programa de actividad Física (10 sesiones o más) basado en Hipertrofia muscular post quirúrgico, entregado a usuarios y/o pacientes en el Centro de Obesidad de Concepción (COBEC) en la Octava Región, Chile, durante el año 2019 y 2020. Que han sido intervenidos por alguna de las técnicas quirúrgicas (manga o Bypass). Siendo estudiado el protocolo deportivo para comprobar la disminución de síndromes metabólicos, disminución del peso, adherencia a hábitos saludables y mejora de la composición corporal en el tiempo, sumando controles médicos respectivos, guía alimentaria nutricional y de salud mental, durante los primeros seis meses post intervención, teniendo como Objetivos: detener y mejorar la pérdida de masa muscular, consecuencia de la intervención quirúrgica, mejorando los protocolos del tratamiento y adherencia contra la obesidad y sobrepeso que presenta COBEC.

Objetivos:

- Analizar el desarrollo y gestión de los programas que presenta COBEC de cirugía bariátrica
- Identificar los diversos trastornos metabólicos que afectan a la población relacionados al sobrepeso y obesidad.
- Implementar nuevas estrategias diversas y eficaces para el tratamiento de la Obesidad y sus enfermedades asociadas.
- Evaluar el trabajo de basado en hipertrofia muscular para la detención de masa muscular post cirugía
- Valorar la importancia del equipo multidisciplinario en el tratamiento de la obesidad.

Metodologia:

Se evaluaron a 50 usuarios vía Bioimpedancia (INBODY 570) participantes del programa de que presenta COBEC, de ellos 37 cumplieron las condiciones para el estudio durante los primeros seis meses post intervención quirúrgica, los cuales se dividieron en dos grupos de estudio

Todos los evaluados fueron intervenidos por técnicas para el tratamiento de la obesidad, entre ellas; manga gástrica y bypass, durante el año 2019 y 2020.

Se analizan 37 pacientes (Hombres-Mujeres) con entrenamiento (PCE) y sin entrenamiento (PSE), el periodo a considerar es desde los 3 a 6 meses post cirugía.

Masa Muscular (MM) MME (Masa musculoesqueletica) % G (Porcentaje Grasa)

Resultados:

- N 37
- PCE PESO 27,3 PCE MM 4,3 PCE MME 3,0 PCE %G 14,2
- PSE PESO 18,8 PSE MM 7,9 PSE MME 4,5 PSE %G 7,4

Conclusion:

El programa basado en fuerza con frecuencia de cuatro veces por semana, presentado por COBEC demuestra que el entrenamiento de hipertrofia muscular contribuye a la detención de la pérdida de MM post cirugía.

	PCE	PSE	PCE	PSE	PCE	PSE	PCE	PSE
	Dif Peso		Dif Masa Magra		Dif MME kg		Dif % Grasa	
1	33,60	40,00	6,20	11,10	4,50	7,30	15,30	15,30
2	27,60	17,40	4,20	7,40	3,10	5,00	11,10	1,00
3	25,60	27,30	5,10	8,10	3,60	3,40	11,40	10,60
4	24,30	22,50	4,00	7,40	2,90	3,30	11,50	7,10
5	32,30	14,80	1,00	6,30	0,90	3,00	18,60	6,30
6	15,20	12,00	-0,10	5,80	0,40	3,20	19,30	1,70
7	27,50	11,90	1,90	8,00	1,70	3,30	24,60	2,50
8	25,70	10,00	5,20	5,70	3,40	4,40	14,40	2,80
9	26,60	14,20	5,30	6,90	3,50	4,10	13,70	4,50
10	24,20	21,20	5,60	7,60	3,80	3,90	7,10	8,50
11	32,20	**41,10**	6,90	13,70	4,90	8,30	14,50	4,30
12	29,20	17,70	7,40	5,70	4,90	2,80	10,20	8,60
13	21,20	**29,70**	2,10	8,20	1,90	5,60	15,10	21,50
14	35,20	14,20	6,30	6,80	4,00	3,50	15,00	4,90
15	25,30	19,00	5,70	7,40	3,80	4,80	17,80	5,90
16	42,70	14,60	3,70	6,90	3,00	4,00	21,80	6,40
17	38,00	21,00	4,70	8,50	3,20	4,80	17,80	7,30
18	24,10	6,40	3,80	8,50	2,60	3,50	12,10	2,00
19	29,30	19,00	4,70	13,00	3,10	4,60	17,30	7,70
20	23,50	12,60	3,30	6,90	2,40	3,50	13,60	4,40
21	26,90	30,40	2,90	8,40	2,00	6,60	16,60	11,80
22	24,00	15,70	6,40	7,70	4,70	4,70	10,20	2,70
23	17,30	30,70	-0,80	7,60	-0,30	3,90	14,40	17,80
24	32,00	20,50	5,60	9,10	3,30	3,80	20,50	10,30
25	23,00	14,60	3,00	6,50	1,90	3,90	11,70	4,30
26	35,80	11,80	5,20	8,00	3,20	2,40	17,80	5,00
27	26,90	6,00	4,20	7,20	3,00	3,80	11,40	6,30
28	22,10	11,70	6,00	6,70	4,00	5,40	5,30	6,00
29	24,80	10,30	7,20	6,90	4,70	3,90	11,10	2,30
30	19,20	15,10	1,70	8,70	1,20	4,10	10,50	1,70
31	29,70	14,20	8,20	7,80	5,60	5,50	4,60	1,00
32	35,10	8,30	5,60	6,20	3,80	5,10	19,90	2,20
33	20,90	19,20	7,20	6,70	4,30	4,30	4,50	6,50
34	18,30	16,00	0,10	6,30	0,60	4,10	10,80	9,70
35	23,80	29,70	3,40	8,20	2,30	5,60	11,90	21,50
36	19,70	29,60	2,80	10,80	1,50	7,00	11,50	18,80
37	43,40	24,60	3,40	10,40	2,80	6,70	31,00	14,20
Media	**27,28**	**18,78**	**4,30**	**7,92**	**2,98**	**4,52**	**14,21**	**7,44**

Tabla x: Resumen variables estadísticas descriptivas

Estadísticas

Variable	N	Media	Desv.Est.	Varianza	Mínimo	Máximo
PCE Peso	37	27,3	6,7	45,0	15,2	43,4
PSE Peso	37	18,8	8,6	74,1	6,0	41,1
PCE MM	37	4,3	2,2	4,8	-0,8	8,2
PSE MM	37	7,9	1,8	3,4	5,7	13,7
PCE MME	37	3,0	1,4	1,9	-0,3	5,6
PSE MME	37	4,5	1,3	1,8	2,4	8,3
PCE %G	37	14,2	5,4	29,5	4,5	31,0
PSE %G	37	7,4	5,6	31,8	1,0	21,5

O-124

ELIPSE GASTRIC BALLOON SYSTEM FOR WEIGHT LOSS: SHORT AND LONG-TERM MULTICENTER RESULTS IN 509 PATIENTS AFTER BALLOON TREATMENT, AND One YEAR AFTER BALLOON PASSAGE

Emergent technology, new nonstandard and bariatric surgery

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Background:

The Elipse Gastric Balloon System (EGBS) is a 4-month non-endoscopic balloon for weight loss. The Bluetooth-connected scale and unique cell-phone App allows close follow-up both during treatment, and longer term after balloon passage.

Objective:

To determine the short and long-term efficacy of EGBS at 4 months and at 1 year after passage of the balloon using augmented follow-up with the Bluetooth-connected scale and cell-phone App.

Method:

Data was retrospectively analyzed from 9 international obesity centers for all balloon placements between March 2016 and February 2019. Patients had been followed monthly throughout balloon treatment, and for 1 year after balloon passage. The Bluetooth-connected scale and cell-phone App allowed an augmented “virtual follow-up” adding close support to the patients. Results for WL, TBWL, EWL, BMIL and metabolic data were collected.

Results:

One-year follow-up data was available from 509 patients (321F, 188M). Mean weight and BMI before the procedure were 102.6 ± 21.3kg and 35.9 ± 5.8kg/m2. After 4 months of treatment, weight loss, %TBWL, %EWL and BMIL were 14.4 ± 7.7kg, 13.9 ± 6.4%, 55.5 ± 36.9% and 5.1 ± 2.6kg/m2 respectively. All metabolic parameters improved significantly in the 192 patients where this data had been collected. One year after balloon passage, weight loss, %TBWL, %EWL and BMIL were 14.1 ± 11.7kg, 13.3 ± 9.9%, 50.8 ± 44.0% and 4.9 ± 4.0kg/m2 respectively. Adverse events observed were: Intolerance 1.2%, gastric dilation 0.2%, gastritis 0.2% and gastric perforation requiring laparoscopic repair 0.2%. Seven patients (1.3%) passed the balloon by vomiting at the end of balloon residence without any side effects.

Conclusion:

EGBS demonstrated excellent short and long-term efficacy for weight loss with very few adverse events. Close communications using a Bluetooth-connected scale and a unique cell-phone App allowed for an augmented “virtual follow-up” both during EGBS treatment and longer term after passage of the balloon. This resulted in a 13.9% TBWL at 4 months and 13.3% TBWL 1 year after balloon passage, a 95% maintenance of %TBWL.

O-125

ENDO-SLEEVE GASTROPLASTY FOR OBESITY AFTER LIVER TRANSPLANTATION: A NOVEL APPROACH FOR AN OLD PROBLEM

Endoscopic and percutaneous interventional procedures

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Background and Objective:

Obesity and related comorbidities have been reported in nearly 25% of patients 2 years after liver transplantation (LT). Obesity can severely impair the function of the transplanted liver into a vicious loop. Lifestyle modifications and low-calories diet represent the first therapeutic approach in these patients. Only small and heterogeneous case series of bariatric surgery after LT have been published, reporting a high rate of complications (30-40%) and mortality (up to 20%). Recently, endoscopic bariatric procedures were proposed as less invasive, safe and effective therapeutic options. Nevertheless, to our knowledge, no cases of endoscopic bariatric therapies in transplanted patients have been reported, yet.

Methods:

We here describe a case of endo-sleeve gastroplasty (ESG) for obesity after LT.

Results:

A 68-year-old female patient underwent LT in 2015 for HCV and NASH-related cirrhosis. She gradually developed morbid obesity reaching 119 kg, BMI of 50.8 kg/m2 after 5 years. Despite a psycho-nutritional counselling, she did not achieve significant weight loss. Liraglutide was not considered due to the lack of scientific data in liver transplanted patient. Therefore, she underwent ESG using Apollo endostitch™. The procedure time was 55 mins, the post-operative course uneventful and at the last follow-up (8 months later), a weight reduction of 30 kg was documented (89 kg, BMI 38 kg/m2). Liver function tests showed no alteration of AST, ALT, GGT and Bilirubin levels, nor alterations in tacrolimus levels were found.

Reduction of total cholesterol (from 189 to 176 mg/dL) and triglycerides (from 136 to 110 mg/dL) was also documented.

Conclusion:

ESG may represent a safe and effective option for patients developing obesity after LT. Further studies and larger series are warranted to better define its clinical applications.

O-126

ENDOSCOPIC ASSESSMENT OF MORPHOLOGICAL AND HISTOPATHOLOGICAL UPPER GASTROINTESTINAL CHANGES AFTER VERTICAL CLIP GASTROPLASTY – CASE SERIES

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Vertical Clip Gastroplasty (VCG) is a restrictive laparoscopic bariatric procedure that mimics the mechanism of the vertical sleeve gastrectomy. However, it is reversible, uses an extraluminal prosthesis, does not require stapling, does not cause disabsorption. The present prospective study describes endoscopic anatomy after VCG, explains how to identify this surgery in the endoscopic examination and exposes the most important histopathological aspects found in the biopsies of eight patients who underwent VCG at three months follow-up.

Objective:

To describe the morphologic, endoscopic and histopathological findings in the upper digestive tract of eight patients who underwent VCG at 3 months follow-up.

Methods:

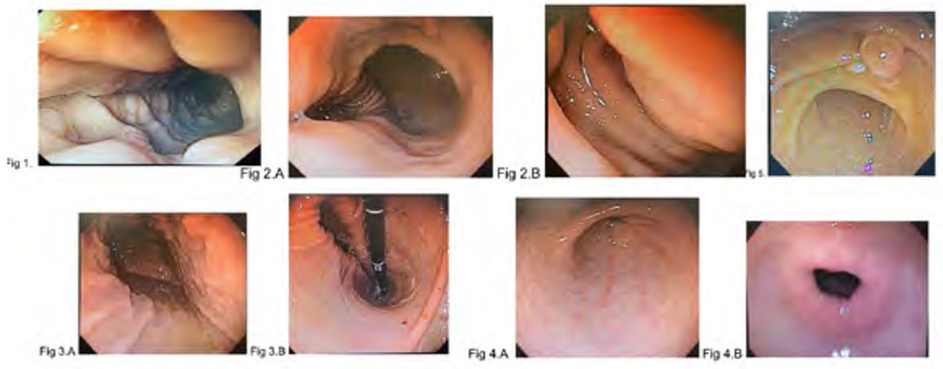
Prospective observational study that included 8 patients with grade I and II obesity, with and without comorbidities, submitted to VCG. At 3-month follow-up, they were invited to undergo esophagogastroduodenoscopy. 7 (77.77%) were women and 1 (11.11%) men, with an average age of 37 years (between 27 and 60 years). The mean BMI was 35.45 Kg / m2. All gastric segments' photos were captured during endoscopic procedure and gastric mucosa biopsies were performed.

Results:

Specific morphological and endoscopic changes after VCG are carefully described. Four patients (50%) had grade A distal erosive esophagitis from Los Angeles. Endoscopic evaluation of all gastric segments was possible. The presence of gastric mucosal erosions was noted in 12.5% (n = 1) of patients and enanthema in 62.5% (n = 5). In 100% of the cases, the presence of pangastritis was identified. Duodenal bulb mucosa and the second duodenal portion were found to be normal in 87.5% of the individuals. In all cases (100%), histopathological examination showed the presence of chronic inactive gastritis. Prior to the surgical procedure, H. Pylori infection was identified in 44% of patients. After 3 months of surgery, this microorganism was isolated in 12.5% (n = 1) of the cases and that specific patient already had the diagnosis before VCG.

Conclusions:

VCG is safe, effective and enables to perform a complete gastric endoscopic and histopathological evaluation. 50% of the patients had endoscopic findings suggestive of gastroesophageal reflux disease in the post-operative period, which may suggest that VCG is a refluxogenic procedure. The incidence of H. Pylori infection was 0%, which may suggest the presence of protective mechanisms not yet described for this technique.



Morphological and Endoscopic aspect of normal stomach after VCG:
Fig 1: Proximal gastric body, Fig 2.A – Fig 2.B: Distal gastric body,
Fig 3.A – Fig 3.B : Fundus and excluded gastric body,
Fig 4.A - Fig 4.B : Antrum and pylorus,
Fig 5: Duodenal major papilla and second duodenal portion.

O-127

ENDOSCOPIC GASTROPLASTY: A FEASIBLE, SAFE AND EFFECTIVE MINI-INVASIVE PROCUDURE TO TREAT OBESE PATIENTS. PRELIMINARY RESULTS FROM A PROSPECTIVE, SINGLE CENTER, RANDOMIZED OBSERVATIONAL STUDY

Gastric plication

S. Vadala di Prampero[1], S. Masia[2], P. Bazzu[3], V. Cosseddu[2], J. Formichetti[2], F. Di Maio[4], G. Manzoni[5], C. Rocchi[1], M. Massidda[1], V. Milano[2], P. Rinaldi[5], P. Giustacchini[2], M. Bulajic[1].

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Introduction:

Endoscopic Gastroplasty (EG) is an endoscopic therapy focusing on gastric body remodeling to treat obese patients. Nowadays three different techniques are mainly described in literature: endoscopic sleeve gastroplasty (ESG) with an overstitch endoscopic suturing device, endoluminal vertical gastroplasty (EVG) with a simple triangulation platform and endoluminal suturing device, and distal primary obesity surgery endoluminal (D-POSE) with an endoscopic plication system.

Objectives:

Our study aimed to assess feasibility, safety, and efficacy of all these three techniques.

Methods:

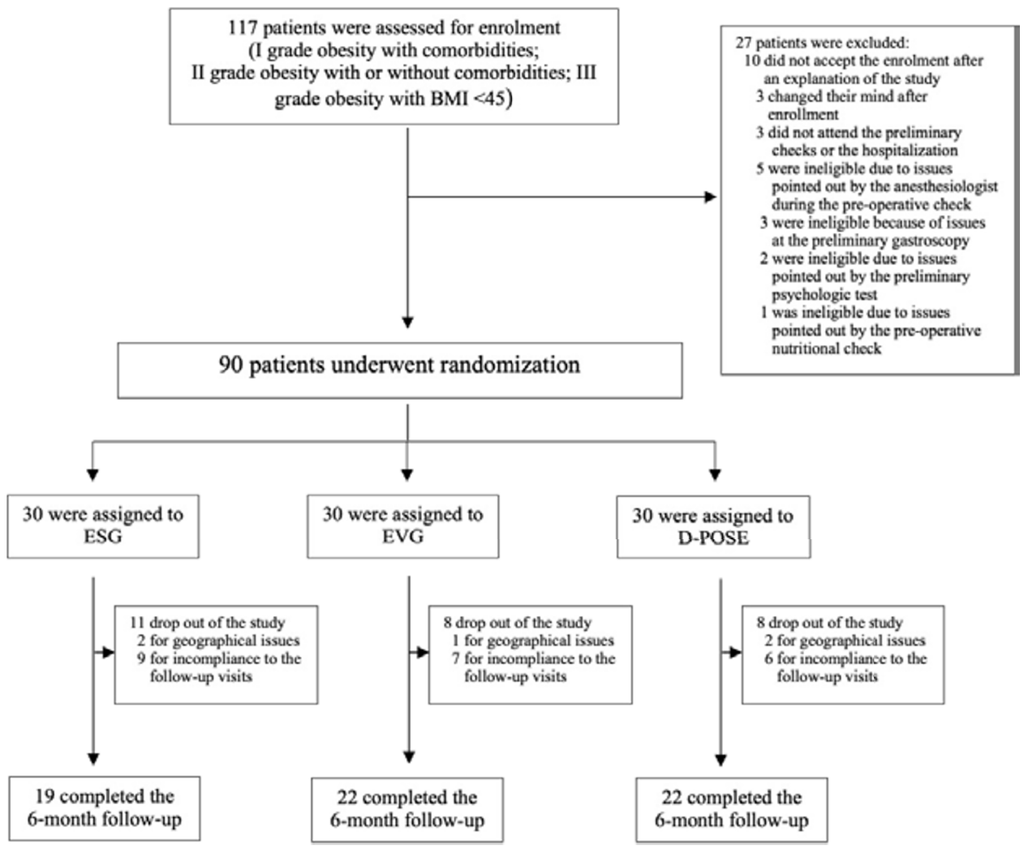
This was a prospective, single center, randomized observational study (ClinicalTrials.gov NCT04854317) of patients who underwent EG through ESG or EVG or D-POSE for treatment of obesity. Outcomes included technical success rate, serious adverse event rate, and efficacy of these three procedures at inducing weight loss, improving obesity-related comorbidities and quality of life.

Results:

Between July 2020 and October 2021, 90 obese (body mass index 36.6 ± 3.1 kg/m2) patients (mean age, 46 ± 10 years; females 87.5%; obesity class II as the main obesity class in 58.3% cases; hepatic steatosis as the main comorbidity with a 70% frequency) underwent EG through ESG or EVG or D-POSE (fig.1). The technical success rate was 100%. The serious adverse event rate was 0%. The stomach was shortened by 11.5 ± 3.9 cm, representing a 34.2 ± 10.6 % reduction. At 6 months, 63/90 (70%) patients attended their follow-up visit. They experienced 16% ± 6% total body weight loss (TBWL) and 39.7% ± 14.9% excess weight loss (EWL), with no significant difference among the three techniques in both of parameters ($p>0.62$ in TBWL% and $p>0.94$ in EWL% ANOVA tests) (fig.2 a,b). Sixty out of sixty-three (95.2%) patients achieved at least 5% TBWL, and 54/63 (85.7%) achieved at least 25% EWL. Fatty liver disease, hypertension, hyperlipidemia, diabetes, and obstructive sleep apnea improved after the procedure. Also the quality of life measured by BAROS test improved at 6-month follow-up ($p<0.01$).

Conclusions:

EG through ESG, EVG and D-POSE, focusing on gastric body reduction and sparing the fundus and antrum, are technically feasible and appear to be safe and effective for the treatment of obese patients at 6-month follow-up.



O-128

ENDOSCOPIC NEGATIVE PRESSURE THERAPY (ENPT) IS SUPERIOR TO STENT THERAPY FOR STAPLE-LINE LEAK AFTER SLEEVE GASTRECTOMY: A SINGLE CENTER COHORT STUDY

Endoscopic and percutaneous interventional procedures

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Introduction:

Staple-line leak (SLL) is a serious complication after Sleeve Gastrectomy (SG). Common endoscopic treatment options include Self-expandable metallic stent (SEMS), endoscopic internal drainage (EID), and endoscopic closure. Endoscopic negative pressure therapy (ENPT) is a promising treatment option combining temporary sealing of the defect with drainage of the inflammatory bed. In this study, we compare the outcome of ENPT and SEMS for the treatment of SLL following SG.

Methods:

A retrospective cohort of 27 patients (21 females) treated at a single center for SLL after SG was included. ENPT was primary therapy for 14 patients and compared with 13 patients treated primarily using SEMS.

Results:

ENPT was associated with a significant reduction of hospital stay (19 ± 15.1 vs. 56.69 ± 47.21 days, p=0.027), reduced duration of endoscopic treatment (9.8 ± 8.6 vs. 44.92 ± 60.98 days, p=0.009) and shorter transabdominal drain dwell time [15 (5-96) vs. 45 (12-162) days, p= 0.014] when compared to SEMS.
Whereas endoscopic management was successful in 12/14 (85.7%) of patients from the ENPT group, SEMS was successful in only 5/13 (38.5%) of patients (p=0.015). Furthermore, ENPT was associated with a significant reduction of endoscopic adverse events compared with SEMS (14.3% vs. 76.92% p=0.001).

Conclusion:

Compared with SEMS, ENPT is effective and safe in treating SLL after SG providing higher success rates, shorter treatment duration, and lower adverse events rates.

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O-129

ENDOSCOPIC SLEEVE GASTROPLASTY (ESG) FOR HIGH-RISK PATIENTS, HIGH BODY MASS INDEX (>50 KG/M2) PATIENTS, AND CONTRAINDICATION TO ABDOMINAL SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

For high-risk classified patients, patients with superobesity and in cases of contraindication to abdominal surgery, traditional bariatric surgery might lead to potential morbidity and mortality. Endoscopic sleeve gastroplasty (ESG) is a novel and effective bariatric therapy for morbidly obese patients. Our research group initially performed the ESG for the above-mentioned challenging clinical situations.

Objectives:

Evaluated the safety, feasibility and efficacy of ESG for high-risk, high body mass index (BMI) patients and patients contraindicated to abdominal surgeries.

Methods:

This is a pilot clinical study of collecting clinical data from consecutive eligible patients who have undergone ESG between January 2016 to December 2019. Eligible patients characterized as high-risk for bariatric surgery due to high-BMI, severe comorbidities or impenetrable abdomen. All procedures were performed by using Overstich® (Apollo Endosurgery, Austin, TX, UNITED STATES). Primary outcomes included technical success, post-procedure adverse events and mortality, and the change of weight and BMI evaluated by weight (weight loss, kg), BMI (BMI reduction, kg/m2), percent of total weight loss (%TWL) and percent of excess weight loss (%EWL).

Results:

ESG was successfully performed for all patients (N=24, mean age was 55.6 (±9.2) years old, 75% male). Baseline weight and BMI were 157.9 (±49.1) kg and 49.9 (±14.4) kg/m2. According to Edmonton Obesity Staging System (EOSS), 8 (33.3%), 14 (58.3%), and 2 (8.3%) patients were respectively classified as EOSS 2, 3 and 4. Mean operation time was 114.7 (±26.0) minutes, without intraoperative complication. Weight loss, BMI reduction, %Total Weight Loss (%TWL), and %Excess Weight Loss (%EWL) were 17.5 (±14.6) kg, 5.6 (±4.6) kg/m2, 12.2% (±8.9%) and 29.1% (±17.9%) at post-ESG 12-month, respectively. One (4.2%) moderate post-procedure adverse event (gastric mucosal bleeding) was observed.

Conclusions:

ESG can be used as a safe, feasible and effective option for the therapy of patients with superobesity, high-risk patients and patients contraindicated to abdominal surgery.

Keywords: Endoscopic Sleeve Gastroplasty, Apollo Overstich, superobesity, high cardiopulmonary risk, complications, weight loss, comorbidities resolution

Variables	Number (%) / mean (±SD)	Median (IQR)
Age (years old)	55.6 (±9.2)	55.5 (48.0, 59.0)
Gender		
male	18 (75.0%)	-
female	6 (25.0%)	-
Pre-ESG weight (kg)	157.9 (±49.1)	151.5 (120.0, 184.5)
Pre-ESG BMI (kg/m2)	49.9 (±14.4)	46.2 (40.8, 54.9)
Obesity grade		
I	1 (4.2%)	
II	3 (12.5%)	
III	20 (83.3%)	
Comorbidities		
Obesity-related comorbidities		
hypertension	21 (87.5%)	-
OSAS	17 (70.8%)	-
T2D	15 (62.5%)	-
dyslipidemia	8 (33.3%)	-
osteoarthritis	7 (29.2%)	-
OHS	4 (16.7%)	-
depression	4 (16.7%)	-
GERD	3 (12.5%)	-
hypothyroidism	2 (8.3%)	-
hyperuricemia	1 (4.2%)	-
Other comorbidities		
giant incisional hernia	6 (25.0%)	-
anticoagulation	5 (20.8%)	-
heart failure	5 (20.8%)	-
renal failure	4 (16.7%)	-
respiratory failure	3 (12.5%)	-
immunosuppression	3 (12.5%)	-
severe COPD	3 (12.5%)	-
atrial fibrillation	3 (12.5%)	-
coronary artery disease	3 (12.5%)	-
T1D	2 (8.3%)	-
tracheal stenosis	1 (4.2%)	-
critical illness polyneuropathy	1 (4.2%)	-
catheter-related sepsis	1 (4.2%)	-
liver cirrhosis	1 (4.2%)	-
dumping syndrome	1 (4.2%)	-
hiatal hernia	1 (4.2%)	-
Number of comorbidities (per patient)§	5.2 (±2.1)	5.0 (4.0, 7.0)
Pre-ESG EOSS score		
2	8 (33.3%)	-
3	14 (58.3%)	-
4	2 (8.3%)	-
History of previous surgery&		
presence	19 (79.2%)	-
absence	5 (20.8%)	-
ASA classification		
III	19 (79.2%)	-
IV	5 (20.8%)	-
Operation time (mins)	114.7 (±26.0)	110.0 (98.0, 129.5)
Post-ESG adverse event		
presence	1 (4.2%)	-
absence	23 (95.8%)	-
Length of post-ESG hospital stay (POD)	5.5 (±7.8)	4.0 (2.0, 5.8)

Table 1. Demographic characteristics and perioperative outcomes of patients who underwent ESG

ESG, Endoscopic sleeve gastroplasty; SD, Standard Deviation; IQR, Interquartile range; BMI, Body mass index; OSAS, Obstructive sleep apnea syndrome; T2D, Type 2 diabetes; OHS, Obesity hypoventilation syndrome; GERD, Gastroesophageal reflux disease; COPD, Chronic obstructive pulmonary disease; T1D, Type 1 diabetes; EOSS, Edmonton Obesity Staging System; ASA, American society of anesthesiologists; mins, minutes; POD, Postoperative days

§ Comorbidities included both obesity-related comorbidities and other comorbidities.

& Included all kinds of surgery.

Table 2. High-risk factors of patients included in this study.

Case number	High-risk factors
Patient 1	Giant abdominal incisional hernia (on both sides), multiple previous laparotomies, OSAS;
Patient 2	Superobesity;
Patient 3	Superobesity, giant abdominal incisional hernia (recurrent), multiple previous laparotomies, OSAS;
Patient 4	Superobesity, multiple previous laparotomies, EOSS 3;
Patient 5	Super-super obesity, giant abdominal incisional hernia, multiple previous laparotomies, anticoagulation, atrial fibrillation, OSAS;
Patient 6	Superobesity, anticoagulation, heart failure, respiratory failure, OSAS, EOSS 3;
Patient 7	Super-super obesity, respiratory failure, heart failure, OSAS, EOSS 3;
Patient 8	Super-super obesity, OSAS;
Patient 9	Super-super obesity, renal failure, catheter-related sepsis, type 1 diabetes (with multiple diabetic complications), EOSS 3;
Patient 10	Heart failure (left ventricular assist device), candidate for heart transplantation, anticoagulation, atrial fibrillation (permanent), EOSS 4;
Patient 11	Giant abdominal incisional hernia (on both sides), respiratory failure, severe COPD, immunosuppression (after liver transplantation), EOSS 3;
Patient 12	Multiple previous laparotomies, OSAS;
Patient 13	Renal failure (both sides), candidate for kidney transplantation, OSAS, EOSS 4;
Patient 14	Liver cirrhosis (Child A), portal hypertension, OSAS, EOSS 3;
Patient 15	Renal failure, immunosuppression (therapy for ulcerative colitis), anticoagulation (factor V deficiency), OSAS, EOSS 3;
Patient 16	Pulmonary insufficiency, OSAS, EOSS 3;
Patient 17	Pulmonary insufficiency, OSAS, type 1 diabetes (with multiple diabetic complications), EOSS 3;
Patient 18	Giant abdominal incisional hernia, multiple previous laparotomies, OSAS;
Patient 19	Multiple previous laparotomies, immunosuppression (after liver and kidney transplantation), EOSS 3;
Patient 20	Giant abdominal incisional hernia, OSAS;
Patient 21	Heart failure, severe COPD, OSAS, EOSS 3;
Patient 22	Multiple previous laparotomies, anticoagulation, atrial fibrillation, OSAS, EOSS 3;
Patient 23	Superobesity, heart failure, severe COPD, EOSS 3;
Patient 24	Renal failure, OSAS, EOSS 3;

OSAS, Obstructive sleep apnea syndrome; Superobesity, BMI >50kg/m2; Super-super obesity, BMI ≥60 kg/m2; EOSS, Edmonton Obesity Staging System; COPD, Chronic Obstructive Pulmonary Disease;

O-130
ENDOSCOPIC SLEEVE GASTROPLASTY IS AN EFFECTIVE AND SAFE TREATMENT FOR WEIGHT MANAGEMENT AND HUNGER CONTROL IN OBESE ASIAN POPULATION: 12-MONTH EXPERIENCE

Endoscopic and percutaneous interventional procedures

C. Liu.

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Introduction:

Endoscopic sleeve gastroplasty(ESG) has been proven to be a safe and effective method for obesity treatment in Western world. However, there was scanty data about its performance in Asian obese population.

Objectives:

To evaluate weight loss efficacy, hunger control and complications of ESG in Asian Population.

Methods:

We collected total 45 obese Asian Taiwanese who underwent ESG from Oct.2020 to Dec., 2021. It's a single-center prospective study. We recorded body weight, biochemistry data and used VAS score to evaluate eating amount, hunger and eating desire aspects. We analyzed data at 1, 3, 6, 9 and 12 months.

Results:

The mean baseline age was 38.37±4.79 years old and 88% were female(40/45). Mean baseline body weight(BW) and body mass index(BMI)was 90.19±19.52 Kg and 33.85±6.67 kg/m2 respectively. Average operative time of ESG was 68.67±22.80 min. Average percentage of total body weight loss(%TBWL), excess body weight loss(%EBWL), decreased eating amounts, hunger sensation and eating desire compared with pre-ESG state at 1,3,6,9,12 month were listed as the following table:

	1 month	3 month	6 month	9 month	12 month
%TBWL	9.21%	15.89%	20.72%	22.39%	22.75%
%EBWL	38.27%	63.19%	74.53%	76.45%	78.22%
Eating Amount.	-82.23%	-78.73%	-73.15%	-64.45%	-57.63%
Hunger Sensation	-92.66%	-82.90%	-76.98%	-68.73%	-58.7%
Eating Desire	-76.51%	-63.21%	-45.64%	-48.6%	-33.56%

Most common short-term postoperative complication was epigastric pain:58.33%. Others were gastric spasm:52.78%, nausea/vomiting:22.22% and abdominal distention:19.44%. Long-term postoperative complication was constipation: 33.33%. No major nutrition deficiency was noted. However, we found patients who had Helicobacter Pylori(H.P.) infection(33.33% of all) had higher rates of perioperative bleeding(27.78%) and 16.67% needed to use endoscopic clips. 2 patients(4.44%) had postoperative gastric bleeding and used clips to stop bleed successfully. No postoperative gastroesophageal reflux. No serious adverse complications were noted.

Conclusion:

ESG has good weight loss results and well control of eating amount and hunger sensation at 12 month postoperatively. Even the eating desire is slowly back at 12 month but it still has 33.56% decrease compared with pre-ESG state. There were no serious adverse events. ESG is effective and safe for obese Asians.

O-131

ENDOSCOPIC SLEEVE GASTROPLASTY FOR OBESITY: RESULTS FROM THE MULTICENTER ESG RANDOMIZED INTERVENTIONAL TRIAL (MERIT-TRIAL)

Endoscopic and percutaneous interventional procedures

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Background:

Endoscopic Sleeve Gastroplasty (ESG) is an endoscopic therapeutic option for obesity. We performed the first multicenter randomized controlled trial to evaluate its safety and mid-term efficacy.

Methods:

Adult patients (body mass index 30–40 kg/m²) were randomized 1:2 using stratified permuted blocks to receive moderate-intensity lifestyle modification plus ESG (ESG) or moderate intensity lifestyle modification alone (LS) for 52 weeks. Nine US centers participated (5 gastroenterology, 4 bariatric surgery) from both academic and community practices. ESG patients were followed for 104 weeks. The LS cohort crossed over to ESG at 52 weeks. Primary outcomes for safety and efficacy were defined by joint societal recommendations (SOARD 2011;7(6):672-82) and included: 1) mean excess weight loss (EWL) of more than 25% in the ESG arm at 52 weeks with a 15% EWL difference compared to LS. 2) Device or procedural related serious adverse events rate of <5%. Modified intention to treat analysis (mITT) performed (NCT03406975).

Results:

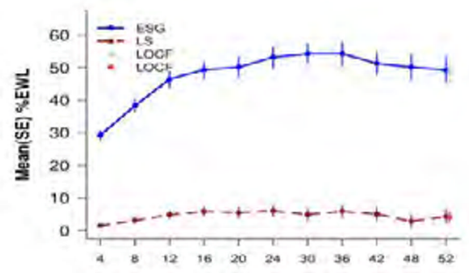
208 patients were randomized to ESG (n=85) or LS (123). Baseline characteristics shown in table 1. % EWL at 52 weeks in the ESG cohort was 49±31% compared to 4 ± 18.5% in the LS cohort (p<0.0001) (Figure 1). ESG resulted in 43% [95% CI 37 – 48] more %EWL compared to moderate intensity LS alone (p<0.001); and 12% [95% CI10.5 – 13.4] difference in percent total body weight loss (%TBWL) (p<0.001). 79% of the ESG cohort achieved ≥ 25% EWL, reaching a mean %TBWL of 16±6% at 52 weeks. At 104 weeks the ESG cohort maintained 91% of the weight lost at week 52, maintaining a 12.4±8.4% TBWL. Seventy-two patients from the LS cohort crossed over to ESG at 52 weeks. The cross-over cohort (n= 72) achieved an additional 48± 27% EWL compared to the weight loss achieved after 52 weeks of LS modification alone (p<0.001); representing an additional 13.2 ± 6% TBWL compared to LS alone. For safety analysis 149 patients who underwent ESG were included. Rate of device or procedural related SAE was 2% (3/149) including: abdominal abscess managed with endoscopic ultrasound drainage, upper GI bleed managed conservatively without transfusion or intervention, and a case of malnutrition requiring endoscopic reversal of the ESG. 4% of ESG patients required subsequent hospital admission for medical management of accommodative symptoms.

Conclusions:

This RCT confirms the safety and efficacy of ESG. This procedure is ready for expanded clinical adoption.

Table 1: Descriptive Statistics of Baseline Demographics

	LS	ESG	Total
Age			
Mean (SD)	45.6 (10.3)	47.3 (9.3)	46.3 (9.9)
Median	45.5	49.0	46.0
Q1, Q3	38.0, 52.5	42.0, 55.0	39.0, 54.0
Range	(20.0-65.0)	(22.0-64.0)	(20.0-65.0)
Gender			
Male	18 (16.1%)	9 (11.7%)	27 (14.3%)
Female	94 (83.9%)	68 (88.3%)	162 (85.7%)
Race			
White	63 (56.3%)	53 (68.8%)	116 (61.4%)
African American	14 (12.5%)	11 (14.3%)	25 (13.2%)
Asian	3 (2.7%)	0 (0.0%)	3 (1.6%)
Hispanic/Latino	19 (17.0%)	11 (14.3%)	30 (15.9%)
Other	9 (8.0%)	1 (1.3%)	10 (5.3%)
Deferred	4 (3.6%)	1 (1.3%)	5 (2.6%)
Diabetic			
Yes	39 (34.8%)	18 (23.4%)	57 (30.2%)
No	73 (65.2%)	59 (76.6%)	132 (69.8%)
Hypertension			
Yes	59 (52.7%)	38 (49.4%)	97 (51.3%)
No	53 (47.3%)	39 (50.6%)	92 (48.7%)
Baseline BMI			
Mean (SD)	35.8 (2.7)	35.4 (2.6)	35.7 (2.7)
Median	35.8	35.8	35.8
Q1, Q3	33.6, 38.1	33.7, 37.6	33.7, 37.8
Baseline Weight (kg)			
Mean (SD) (12.3)	99.3 (12.9)	98	98.8 (12.6)
Median	97.8	95.3	97.1
Q1, Q3	91.0, 105.9	89.8, 107.5	90.5, 107.0
Range	(72.7-138.3)	(74.5-130.0)	(72.7-138.3)



O-132

ENDOSCOPIC SLEEVE GASTROPLASTY INITIAL RESULTS

Endoscopic and percutaneous interventional procedures

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Background:

Bariatric surgery is the most effective method for weight loss and metabolic control, decreasing cardiovascular risk. In recent years, less invasive procedures are better accepted by patients and gaining popularity, such as endoscopic sleeve gastroplasty (ESG). This study aims to verify the effectiveness and safety of ESG in our institution.

Method:

Observational, retrospective study of all ESG performed between December 2017 to June 2020 in Clínica Las Condes. All patients who completed one year after surgery were included. Patients who did not give their consent to participate were excluded. The primary endpoint was weight loss (%EWL, %TBWL), safety at one year of follow-up and success rate: %EWL >25 endoscopic criteria and %EWL>50 bariatric criteria.

Results:

235 patients underwent ESG. 162 met the inclusion criteria with a complete follow-up of 68.5 % (111 patients). The %EWL and %TBWL at 3, 6 and 12 months was 62.9; 66.1 and 82.2 %, and 11.9; 13.1 and 13.2% respectively. Patients lost an average of 10.4 kg at one year (6-32 kg). The success rate per year (EWL> 25%) was reached by 96 patients (60%) of which 78 patients (48.7%) exceeded an EWL> 50%. Three of these patients had regular or no weight loss and opted for a sleeve gastrectomy before completing the year. Of the total series, four major adverse events (2.5%) were reported, three were resolved with medical treatment, and another with surgery for a gastric perforation. There was no mortality in this series.

Conclusion:

In this series, ESG proves to be an effective bariatric procedure with acceptable weight loss (EWL>25) at one year and low complications rate.

O-133

ENDOSCOPIC SLEEVE GASTROPLASTY IS AN EFFECTIVE AND SAFE TREATMENT FOR WEIGHT MANAGEMENT AND HUNGER CONTROL IN OBESE ASIAN POPULATION: 12-MONTH EXPERIENCE

Endoscopic and percutaneous interventional procedures

C. Liu.

Gastroenterology Department, Weight Management Center, China Medical University Hsinchu Hospital, Charmmed Medical Clinic, Aphrodite Medical Clinic, Zhubei City, Taiwan (Province of China).

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Results:

The mean baseline age was 38.37±4.79 years old and 88% were female(40/45). Mean baseline body weight(BW) and body mass index(BMI)was 90.19±19.52 Kg and 33.85±6.67 kg/m2 respectively. Average operative time of ESG was 68.67±22.80 min. Average percentage of total body weight loss(%TBWL), excess body weight loss(%EBWL), decreased eating amounts, hunger sensation and eating desire compared with pre-ESG state at 1,3,6,9,12 month were listed as the following table:

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Hunger Sensation	-92.66%	-82.90%	-76.98%	-68.73%	-58.7%
Eating Desire	-76.51%	-63.21%	-45.64%	-48.6%	-33.56%

Most common short-term postoperative complication was epigastric pain:58.33%. Others were gastric spasm:52.78%, nausea/vomiting:22.22% and abdominal distention:19.44%. Long-term postoperative complication was constipation: 33.33%. No major nutrition deficiency was noted. However, we found patients who had Helicobacter Pylori(H.P.) infection(33.33% of all) had higher rates of perioperative bleeding(27.78%) and 16.67% needed to use endoscopic clips. 2 patients(4.44%) had postoperative gastric bleeding and used clips to stop bleed successfully. No postoperative gastroesophageal reflux. No serious adverse complications were noted.

Conclusion:

ESG has good weight loss results and well control of eating amount and hunger sensation at 12 month postoperatively. Even the eating desire is slowly back at 12 month but it still has 33.56% decrease compared with pre-ESG state. There were no serious adverse events. ESG is effective and safe for obese Asians.

O-134

ENDOSCOPIC SLEEVE GASTROPLASTY VERSUS ENDOSCOPIC GASTRIC BALLOON: ONE YEAR FOLLOW UP

Endoscopic and percutaneous interventional procedures

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Background:

Bariatric surgery is the most effective method for weight loss and metabolic control, reducing cardiovascular risk. In recent years, less invasive procedures are better accepted by patients and are gaining popularity, such as endoscopic sleeve gastroplasty (ESG) and endoscopic intragastric balloons (EIB). This study aims to compare the effectiveness and safety of ESG versus BIG in our institution.

Methods:

Retrospective, observational cohort study. Two groups were formed, patients with endoscopic gastroplasty performed between December 2017 and November 2018 make up group 1. This group is compared with group 2 of intragastric endoscopic balloons, installed between May 2013 and August 2018, the patients were randomized and matched for weight and BMI. Both groups, patients had to have a follow-up of at least 12 months. Patients who did not consent to participate were excluded.

The success rate was considered: % EWL> 25 endoscopic criteria and% EWL> 50 bariatric criteria.

Postoperative controls:

They are held at month 6 and 12 by surgeon and physician nutritionist. The patient's status, presence of complications or adverse effects, BMI, total percentage of lost weight (%TBWL) and percentage of excess weight lost (%EWL) are evaluated.

Results:

In the ESG group there were 160 patients, in BIG group 109 respectively, there was a female predominance (81.2 and 87,1%). Average age of 39.6 and 38 years. The body mass index (BMI) was 29.8 and 28. The %EWL at 6 and 12 months was 66.1% and 82.2% and for the group 2 was 59.3 and 57 respectively. %TBWL was 13,1% and 13,2% and for the group 2 was 8.7 (p= 0,0005) and 7.4 (p = 0,0005). Success goals were obtained in first group by 60% (96); in the second group was 67% (74) of the patients. The annual monitoring was 69.3% (111) and 100% (109) respectively.
In the first group four major adverse events (2.5%) were reported, three were resolved with medical treatment, and another with surgery for a gastric perforation. There was no morbidity and mortality in intragastric balloons. There was no mortality in this series.

Conclusion:

Endoscopic gastroplasty showed better results than the endoscopic balloon. Both proved to be safe. Most of the patients who choose these techniques are women. Both techniques showed good weight loss, which is of interest to the patients and the health team.

O-135

ENDOSCOPIC SLEEVE GASTROPLASTY: A NONSURGICAL OPTION FOR WEIGHT REDUCTION 2 YEARS FOLLOW-UP FROM A SINGLE CENTRE

Endoscopic and percutaneous interventional procedures

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Introduction:

Endoscopic sleeve gastroplasty is gaining more acceptance as a nonsurgical option for treatment of obesity.

Objectives:

This report details the safety and efficacy results obtained minimum 2 years follow-up of patients undergoing endoscopic sleeve gastroplasty at a single center.

Methods:

A prospective single-center database is maintained on patients with ESG procedures under general anesthesia. Data collected on complications and weight at 1, 3, 6 and 12 and 24 months are analyzed and presented.

Results:

146 patients have had the ESG in the first year of introducing the procedure at our center. Mean age was 40.92±13.3 years (range 13 to 74) and BMI were 34.52±4.96 kg/m2 (range 28.30 to 54.60). 26.71% had T2DM diabetics and 27.39% HTN. Mean surgery duration was 69.7 mins. Immediate postoperative complications include 35.6% patients with nausea, 17.8% with vomiting, 12.3% with bloating and 46.5% with abdominal pain but there was no advert serious event. Average percentage of total weight loss was 8.26%, 11.96,17.25% and 19.94% and 17.88% at 1, 3, 6 and 12 and 24 respectively.

Conclusions:

Endoscopic sleeve gastroplasty with regular monitoring by a multidisciplinary team is a safe and tolerated nonsurgical option for short-term weight reduction. There is need for more reports with this approach to determine the amount and duration of weight loss outcome with endoscopic sleeve gastroplasty.

O-136

ERAS PROTOCOL IN BARIATRIC AND METABOLIC SURGERY. SEVEN YEARS` EXPERIENCE: ANALYSIS OF 12.440 PATIENTS OPERATED IN A SINGLE BRAZILIAN SRC CENTER

Enhanced recovery in bariatric surgery

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Introduction:

Latest evidence show that ERAS Protocol in Bariatric and Metabolic Surgery allow important benefits to the patients. One of them is the early discharge protocol and low hospital re-admission in the 1st 30 post-op days. It provides better results for the patient when established under strict protocols.

Objective:

To analyze the strength of hospital, stay and hospital readmission in the 1st 30 days of post-op.

Methods:

Observational study of 12.440 consecutive patients submitted to bariatric surgery in an SRC® center in São Paulo, Brazil, in the last 7 years. The patients were divided into 2 groups. Group 1 (from 2013 to 2015) presenting the criteria: (1) absence of indication to ICU, (2) patients living in the same city of surgery, (3) absence of intra-operatory complications, (4) less than three comorbidities. Group 2 (from 2016 to 2020) all the patients were included, with hospital discharge in the first 24 hours except those with ICU indication in post-op time, poor diet acceptance or surgery complications.

Results:

We operated 3.566 patients between January 2013 and December 2015: 8.874 patients between January 2016 and December 2020. In 2013 the patients were discharged on the 3rd post-op day. In the following years the mean discharge day was the 1st post-op. In Group 1, 2.638 patients (74%) were included in our criteria and 2.426 patients of those (92%) received early discharge. 68% of all patients were discharged on the 1st post-op using these strict criteria. In Group 2, 8.430 patients (95%) received early discharge in the first 24 hours after surgery. 30-day readmissions decreased from 3,8% in Group 1 to 2,3% in Group 2. It demonstrates better results in the last 4 years.

Conclusion:

The inclusion of all patients as criteria for ERAS protocol in the last 4 years reduced the duration of hospitalization stay (less than 24hs) as well as maintaining or reducing low readmission rates.

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O-137

ESOPHAGEAL MANOMETRY AND PHMETRY PROFILE IN OBESE PATIENTS SELECTED FOR BARIATRIC SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

Obesity is a highly prevalent disease and risk factor for gastroesophageal reflux disease (GERD) which could predispose to esophageal motility disorders. Few studies exist regarding manometric and phmetric findings in patients with obesity who are candidates to bariatric surgery.

Purpose:

The aim of this study is to describe the preoperative findings of patients awaiting bariatric surgery, and to determine associations between the existing parameters.

Methods:

Retrospective analysis of 338 patients with obesity, subjected to 24h-pHmetry with impedance and manometry prior to bariatric surgery between 2006 and 2021. Descriptive and analytical statistics were used for analysis.

Results:

The mean age and body mass index was 41.94 ± 0.70 years and 38.75 ± 0.37 kg/m2, respectively. 24-hour pHmetry analysis showed a pathologic DeMeester index in 46.7% of patients, of which 64.3% (63/98) were symptomatic. Impedance was abnormal in 53.4%, of which 67% (73/109) were symptomatic.
Manometry registered dysmotility in 22.7% (69/304) of patients, a mean lower esophageal sphincter (LES) pressure of 11.93 ± 0.43 mmHg and LES incompetence in 38.5%. Mean gastric pressure was 9.79 ± 0.33 mmHg after deglutition and only 11.4% (34/299) presented abnormal gastroesophageal gradients.

Conclusion:

A high prevalence of dysmotility and GERD exists in patients with obesity candidates to bariatric surgery. Esophageal 24h-pHmetry with impedance and manometry should be considered within preoperative tests as pathologic results could guide appropriate procedure selection, at least in symptomatic patients.

TABLE 1: 24h-pHmetry and impedance findings in patients with obesity, candidates to bariatric surgery

	Frequency
DeMeester score (n=210)	
>14.7	98 (46.7%)
<14.7	112 (53.3%)
Impedance (n=204)	
Normal	95 (46.6%)
Pathological	109 (53.4%)
Type of reflux in Impedance (n=107)	
Acidic	11 (10.3%)
Mixed weakly acidic	67 (62.6%)
Mixed weakly alkaline	26 (24.3%)
Alkaline	3 (2.8%)

TABLE 2: Manometry findings in patients with obesity, candidates to bariatric surgery

Pressure measurements (n=305)	**Mean**	**SD**	
LES (mmHg)	11.93	0.43	
11 cm above LES (mmHg)	70.78	1.94	
7 cm above LES (mmHg)	79.09	2.43	
3 cm above LES (mmHg)	99.14	2.92	
Gastric baseline (mmHg)	9.79	0.33	
Gastric post deglutition (mmHg)	42.15	4.60	
Interpretation		**Frequency**	**Percentage**
Dysmotility (n=304)	Present	69	22.7%
	Absent	235	77.3%
LES function (n=304)	Competent	187	61.5%
	Incompetent	117	38.5%
Gastroesophageal gradient (n=299)	Preserved	265	88.6%
	Inverted	34	11.4%

O-138
ESOPHAGOGASTRIC ADENOCARCINOMA FOLLOWING BARIATRIC SURGERY. A LITERATURE REVIEW OF 154 CASES

Post-operative complications

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Introduction:

Bariatric surgery changes the structure and anatomy of the GI tract and thus may predispose patients to develop upper GI adenocarcinoma. No study has provided an estimate of upper GI adenocarcinoma incidence following bariatric surgery.

Objectives:

The aim of this study is to compile and analyze the available data in the literature about esophagogastric adenocarcinoma occurring after bariatric surgery.

Methods:

A literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases to find all articles on esophagogastric adenocarcinoma following bariatric surgery. Keywords used were esophageal carcinoma, gastroesophageal junction carcinoma, gastric carcinoma, excluded stomach carcinoma, gastric pouch carcinoma, sleeve gastrectomy, gastric banding, gastric bypass, vertical banded gastroplasty, and bariatric surgery. All abstracts retrieved were screened, and for each one deemed relevant, the full text was obtained. Finally, 87 articles containing 154 cases were studied and analyzed.

Results:

94 cases of esophageal and gastroesophageal junction adenocarcinoma have been reported, most of them were following gastric bypass (46.15%), then gastric banding (32.97%), and sleeve gastrectomy (14.29%). 65.9% of cases were in males. Average age at presentation was 57.7 years old, and average time between surgery and diagnosis was 8.1 years. 60 cases of gastric adenocarcinoma have been reported, most of them were following gastric bypass (55%), then gastric banding (25%), and sleeve gastrectomy (15%). 72.41% of cases were in females. Average age at presentation was 54.68 years old, and average time between surgery and diagnosis was 9.06 years. Due to technical difficulties, endoscopic evaluation of the excluded stomach was successful in only 44% of cases who had excluded stomach adenocarcinoma. Additional results are mentioned in table 1.

Conclusion:

It is very important to follow the IFSO and the ASMBS recommendations regarding the post-operative endoscopic evaluation following bariatric surgery. Bariatric esophagogastric adenocarcinoma may be underreported, studies are needed to know their actual incidence following bariatric surgery.

Table 1 Cases' percentage, average age, females' percentage, and time interval between surgery and diagnosis in each group of gastric adenocarcinomas cases

Group	Cases' percentage	Average age (years old)	Females' percentage	Time interval (years)
ES AC	45%	56.81	85.19%	11.69
GP AC	21.67%	61.85	53.85%	8.52
DP AC	15%	47.11	62.5%	8.09
GS AC	18.33%	47.18	70%	3.98

ES, excluded stomach; GP, gastric pouch; DP, distal to pouch; GS, gastric sleeve; AC, adenocarcinoma.

O-139

EVALUATING THE EFFICACY OF FONDAPARINUX AS A THROMBOPHYLACTIC TREATMENT IN BARIATRIC SURGERY: PROSPECTIVE COHORT STUDY

Perioperative management

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Introduction:

Low molecular weight heparin (LMWH) has been and still used widely in preventing thromboembolic events in post operative period after bariatric surgery. Fondaparinux is a micro polysaccharide factor x derived selective anticoagulant with whom the target anti-Xa is easily achieved compared to LMWH.

Methods:

154 patients in post operative period of bariatric surgery were included in this prospective mono centric study using Fondaparinux as a thrombophylactic treatment. Doses were modified according to patient's weight and co-morbidities. Protocol used in this trial was as following:

- BMI <50 , wight <150kg ,with no co-morbidities : 2,5 mg once a day
- BMI >50 , weight > 150, with any com-morbidities : 5mg once a day for 10 days.

Results:

Median age of patients included was 40,1 years, 40.3 % of patients were males (62) and 92 females (59%), median weight calculated was 118(84-222), 28 patients (18%) had a BMI more than 50. Most common co-morbidity found was obstructed sleep apnea (61%) followed by hypertension (39%) , hyperlipidaemia (27%), Diabetes (16.2%) and lastly thromboembolic disease (4%). All these patients had a laparoscopic gastric sleeve in ambulatory surgery unit or discharged at the first day post operatively with Fondaparinux as a prophylactic treatment except for one patient who had a curative treatment. One patient had an uneventful pulmonary embolism while the haemorrhagic event reported in 8 patients was suture line hematoma which treated by simple surveillance in 7 patients and only one patient needed surgical intervention.

Conclusion:

Fondaparinux offers a good efficiency with low risk of hemorrhagic complications and could be used safely as a thrombophylactic treatment post bariatric surgery in patients with low-risk thromboembolic events.

O-140

EVALUATING THE OUTCOMES OF THE INTRAGASTRIC BALLOON FOR WEIGHT LOSS: EXPERIENCE FROM AN AUSTRALIAN BARIATRIC PRACTICE

Endoscopic and percutaneous interventional procedures

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Introduction:

The intragastric balloon (IGB) is an endoscopic implanted device for the treatment of obesity. Weight loss is achieved due to reduction of gastric capacity and enhanced satiety with implantation for 6 months at a time. The current use of these devices in the management of obesity has been limited due to high cost, complications and lower weight loss outcomes than standard bariatric procedures.

Methods:

This is a retrospective cohort study of 36 patients who underwent implantation using the ORBERATM IGB from November 2016 to May 2019. The patients were operated on by a single bariatric surgeon and managed within a bariatric multidisciplinary practice. Data collected included the number of insertions, baseline and postoperative anthropometrical measurements at the time of balloon removal. Data analysis was conducted on IBM SPSS.

Results:

The cohort consisted of 28 females and 8 males with a mean preoperative weight and BMI of 95.1 17.18 kg and 35.0 5.3 kg/m2. The mean postoperative weight and BMI at the time of balloon removal was 87.1 17.0 kg and 32.2 kg/m2. Mean %EWL and %TWL was 37.85 4.9% and 9.5 6.5% (p<0.001). 26 patients had 1 balloon, 6 patients had 2 balloons (1 re-insertion) and 1 patient had 3 balloons (2 re-insertions). The mean %EWL of these cohorts were 30.2 26.3%, 56.8 25.7% and 122.6% respectively. The difference between these %EWL was statistically significant (p=0.014). Eight patients (25%) had the IGB removed due to intolerance.

Conclusion:

The total outcomes of the IGB within our bariatric practice is comparable to that of other studies within the literature when used for 6 months. However, we have found %EWL comparable to sleeve gastrectomy and gastric banding may be achieved in some patients who successfully have the device implanted for 12 months.

O-141

EVALUATION OF LONG-TERM RESULTS OF ROUX-EN-Y GASTRIC BYPASS AND ONE ANASTOMOSIS GASTRIC BYPASS USING BIOELECTRICAL IMPEDANCE.

Pre and post nutritional deficiencies

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Introduction:

Bariatric procedures lead to changes in body composition. Desired fat loss may be accompanied by decrease of muscle mass, thus raising the risk of sarcopenia.

Aim:

To detect the risk of sarcopenia in patients 24 months after Roux-en-Y gastric bypass (RYGB) and One Anastomosis gastric bypass (OAGB/MGB) procedures by bioelectrical impedance.

Methods:

This prospective randomized blind trial included the results of treatment of 241 patients. Our patients were divided into 2 groups depending on the type of surgical treatment. The first group consisted of 116 people who underwent RYGB; the second group included 125 patients who underwent OAGB/MGB. 83 patients from the first group and 95 patients from the control group at the preoperative stage and 24 months after the operation underwent bioelectrical impedance with the determination of skeletal muscle mass (SMM) and skeletal muscle mass index (SMMI) = SMM/ Height2.

Results:

The difference in changes in the results of anthropometric indicators, as well as laboratory indicators of diabetes compensation within 24 months in both groups was statistically insignificant (p> 0.05). According to bioelectrical impedance data, the incidence of sarcopenia in the patient groups was as follows: Pass group found the initially normal ratio of muscle mass to the square of growth in meters, i.e. Normal SMMI in 71 (85.5%) patients in the group with RYGB, and in 78 (85.7%) patients in the OAGB/MGB. Moderate sarcopenia was detected in 12 (14.5%) patients with RYGB and 13 (14.3%) patients with OAGB/MGB. 24 months after the operation, SMMI was distributed as follows - Norm in 59 (71.1%) patients of the study group and 47 (51.6%) patients in the control group. Moderate sarcopenia was found in 16 (19.3%) patients in the group of patients with RYGB, and in 29 (31.9%) cases in the group of patients with OAGB/MGB. Severe sarcopenia was observed in 8 (9.6%) patients of the first group and 15 (16.5%) patients of the second group (p = 0.0001).

Conclusions:

Bariatric surgery results in significant changes in body composition 24 months after surgery. Bioelectrical impedance allows to effectively detect these changes. The desired weight loss is associated with a significant decrease in skeletal muscle mass, mineral mass. Thus, patients after bypass surgery are at risk of sarcopenia. Sarcopenia is more pronounced in patients after OAGB/MGB than after RYGB.

O-142

EVALUATION OF THE EFFECTS OF BARIATRIC SURGERY IN TERMS OF WEIGHT LOSS AND DIABETES REMISSION IN THE INDIAN POPULATION

Type 2 diabetes and metabolic surgery

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Background:

The growing prevalence of obesity rates worldwide is also correlated with rise in its comorbidities, most notably Type-2 Diabetes Mellitus (T2DM). Bariatric surgery is the only proven effective modality for producing sustained weight loss & in resolution of associated T2DM providing marked improvement in quality of life with rapid recovery.

Methods:

Retrospective data analysis of obese patients with T2DM (pre-operative BMI 45.37 ± 8.1) who underwent bariatric surgery (RYGB, LSG, and MGB) was analyzed in this study over a period of 9 years with mean follow up period of 2.2 years. Following surgery, the clinical outcome on BMI, resolution of percentage weight loss, and T2DM was studied. Various positive and negative predictors of diabetic remission after the surgery were also determined. Student's t-test and ANOVA, McNemar's test were applied.

Results:

A total of 274 patients were included in this analysis. Post-operative 1-year, complete remission of T2DM was achieved in 52.9% (n = 145) with mean fasting blood glucose and glycated hemoglobin values being 6.1 ± 0.769 (p=0.00). Independent predictors of remission were age, gender, BMI, preoperative comorbidities, %EWL. Gender had no correlation with the chance of achieving disease remission.

Conclusion:

Based on our results, bariatric surgery proves to be a successful treatment option resulting in sustained weight loss in obese patients with T2DM. It is found to be beneficial for the long-term resolution of T2DM and improving co-morbidities such as Hypertension and Dyslipidemia. The outcome of the different surgical methods are found to be similar for all patients irrespective of the independent predictors of complete remission.

Keywords: Laparoscopic sleeve gastrectomy (LSG), Roux-en-Y gastric bypass (RYGB), Mini-gastric bypass (MGB), Excess weight loss (EWL), Type 2 diabetes mellitus (T2DM), Body mass index (BMI).

O-143

EVALUATION OF THE EFFICACY OF INTRAGASTRIC LIQUID-FILLED BALLOON (IGB) FOR THE INITIAL TREATMENT OF SUPER-SUPER OBESITY IN A BRAZILIAN PATIENT THAT WILL BE SUBMITTED TO BARIATRIC SURGERY– A CASE REPORT

Endoscopic and percutaneous interventional procedures

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Introduction:

Obesity is a complex multifactorial disease that affects populations worldwide. In Brazil, the prevalence of obesity is a major public health problem. Intra-Gastric Balloon (IGB) is commonly used as a non-operative strategy among bariatric patients, with liquid balloons being highly accessible.

Objective:

To identify short-term efficacy, tolerability and early complications in a high-risk super-super obese patient submitted to intragastric liquid-filled balloon placement for the treatment of adiposity prior to definitive bariatric surgery.

Method:

27-year-old super-super obese male unable to walk and totally prostrated because of severe lymphedema. His initial weight was 380 kg and Body Mass Index (BMI) of 114.72 Kg/m2, without previous abdominal surgery or other known diseases. Underwent a 12 months program IGB (Orbera – Apollo Endosurgery) placement under endoscopic guidance. The device was filled with sterile 0.9% saline and 5 mL of 2% methylene blue, totalizing 660mL of the solution. There were no intra or post-operative complications.

Results:

At 6 months follow-up, the patient continued multidisciplinary group support treatment and showed significant weight loss of approximately 28.5% of his total body weight (%TWL). He presented with 270 kg and BMI of 82.12 Kg/m2, thus being able to get up from bed and walk small 8-10m distances. The patient referred occasional mild abdominal pain, with no other complications such as bleeding, reflux, ulcers, perforation or hyperinsuflation being reported.

Conclusion:

Liquid-filled IGB seems to be a safe and effective method for the initial treatment of super-super obese patients who will be submitted to bariatric surgical techniques in the future.

O-144

EXCESS SKIN QUANTITY AND INCONVENIENCE AFTER BARIATRIC SURGERY: BIOPSYCHOSOCIAL AND BEHAVIORAL CORRELATES

Perioperative management

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Background:

Weight loss after bariatric surgery results in excess skin (ES) in more than 70% of patients, which can cause physical (e.g. skin infections, pain), psychosocial (e.g. disgust, shame), and daily living (e.g. hygiene, dressing) challenges. Very little is known about the factors associated with ES and its degree of inconvenience; this information may help identify potential targets for pre- and post-operative management.

Objectives:

The aim of our study was to explore the relationships between ES quantity, ES inconvenience and sociodemographic, medical, physical, psychosocial, and behavioural factors.

Methods:

A multicentric cross-sectional study, including 124 adults (92% women, Mage 46.5±9.9 years, Mtime post-bariatric surgery 34.2±27.6 months), was conducted in Gatineau, Quebec City, Montréal, and Sherbrooke (Canada). Degree of ES inconvenience, sociodemographic, comorbidities, maximal body mass index (BMI) reached pre-surgery, weight loss, social physique anxiety, body esteem (attribution, weight, and appearance), body image, social support, marital satisfaction, sociocultural attitudes towards appearance, quality of life, smoking, and physical activity were self-reported. Weight, height, and ES on abdomen, arms and thighs were objectively measured by research assistants.

Results:

No significant bivariate correlation was found between ES quantity and degree of ES inconvenience on the abdomen and thighs; however, ES quantity on arms was significantly associated with degree of ES inconvenience on the arms ($r=.36$, $p<.05$). Total ES quantity was only significantly associated with maximal BMI reached pre-surgery ($r=.40$, $p<.05$). In linear multivariate analyses, greater degree of ES inconvenience was associated with higher social physique anxiety, and lower body esteem-appearance ($R2=.43$, $p<.01$).

Conclusion:

ES quantity is not systematically related to degree of ES inconvenience. Psychosocial factors related to body image are associated with ES inconvenience post-bariatric surgery. Interventions aimed at improving body image should be considered for this population.

O-145

EXCESS WEIGHT LOSS FOLLOWING LAPAROSCOPIC SLEEVE GASTRECTOMY: A SIX-YEAR RETROSPECTIVE STUDY

Sleeve gastrectomy

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Introduction:

Laparoscopic Sleeve Gastrectomy (SG) is one of the most widely adopted bariatric surgical approaches for weight loss. While short-term Excess Weight Loss (EWL) outcomes indicate that it is comparable to other bariatric operations, data on longer-term follow ups are more lacking in literature.

Objectives:

Our study aims to assess the effectiveness of SG on weight loss, after 1, 2, 3, 4, 5 and 6 years postoperatively.

Methods:

We retrospectively collected data on 209 patients that underwent laparoscopic SG between the years 2005 and 2010. Analysis was based on average EWL outcomes for each year of follow-up.

Results:

Median % EWL at 1, 2, 3, 4, 5, and 6 years postoperatively was 80.9%, 79.1%, 73.8%, 71.8%, 71.5%, and 64.9%, respectively. Our results confirm that laparoscopic SG is an effective operation for EWL, and when compared to current literature, produces noninferior weight loss outcomes compared to other operations.

Conclusions:

Laparoscopic SG is effective in inducing EWL in obese patients, that were able to maintain a steady decline in weight, after six years of followup. More studies on long-term bariatric outcomes are needed, in order to fully evaluate their comparative EWL-inducing capabilities.

O-146

EXPERIENCIA DE BALÓN ELIPSE EN CENTRO DE CIRUGÍA BARIÁTRICA, CLÍNICA LAS CONDES

Emergent technology, New Non-standard, and bariatric surgery

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Introduccións:

El uso de balones intragástricos(BIG), así como el tratamiento del sobrepeso y la obesidad, ha ido en aumento. Múltiples estudios confirman su eficacia con bajas tasas de complicaciones. Hay muchos modelos de BIG, siendo Balón Elipse(BE) el único digerible, que no amerita endoscopía para su instalación ni retiro, pero con una duración de 4 meses. Se ha evidenciado en la literatura que el mayor porcentaje de pérdida de peso se presenta en los primeros 4 meses de su instalación; posterior a esto, es mantención o disminución más paulatina del mismo, lo que apoya el tiempo de duración. Los BIG producen saciedad por ocupación de espacio, disminuyendo la ansiedad por comer y la ingesta calórica, reflejándose en perdida de peso que se estima entre 10-14%.

Metodos:-

ATERIALES:Revisión desde agosto 2019 hasta mayo 2021, con un total de 245 pacientes(pctes) con diagnostico de sobrepeso y obesidad; se incluyeron hombres y mujeres, rango etario entre 14 y 67 años, con IMC promedio de 30,5, excluyéndose a los que tenían antecedentes de cirugía bariátrica o gástrica, embarazadas o periodo de lactancia. Se instaló BE digerible con estilete, volumen de 550ml, en sala de radiología de Clínica Las Condes, comprobándose su posición. Seguimiento de pacientes por 4 meses hasta su expulsión en total de 208 pacientes. Todos los pacientes apoyados de un equipo de nutrición y actividad física.

Resultados:

Se instaló el BE a 245 pctes sin incidentes. Se evidenció complicaciones en 10 pctes(4,1%) entre 48-72 horas de su instalación, como dolor en 2(0,8%), vómitos en 5(2%), que ameritaron consulta a urgencia, solo 2 se hospitalizaron por hiperemesis por 24 horas y los otros se manejaron de forma ambulatoria, 2(0,8%) se retiran BE por migraña y retención gástrica, 1(0,4%) con impactación del BE con desimpactación manual. No hubo evidencia de complicaciones tardías. Se realizó seguimiento a 208 pctes por 4 meses, donde se evidenció pérdida de peso por mes de: 1er mes 6.5kg, 2do mes 8,3kg, 3er mes 10,4 kg, y 4to mes 10.67kg, con un promedio total de % de exceso de peso perdido en 4meses de 12,58%. Todos expulsaron el balón, siendo 205(98,5%) por deposiciones y 3(1,5%) por vómitos.

Conclusion:

El Balón Elipse digerible es una opción segura y eficaz como tratamiento del sobrepeso y la obesidad, poco invasivo, bien tolerado y con evidencia de adecuada perdida de peso en 4 meses, siendo esta entre 10-15%. El BE digerible representa una buena alternativa de tratamiento para control del peso

O-147

FABP4 AND MMP9 AS SERUM MARKERS FOR NASH

NASH and bariatric surgery

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Background:

Obesity is associated with many diseases. The nonalcoholic fatty liver disease (NAFLD) is one associated condition. This disease carries the risk of developing a nonalcoholic steatohepatitis (NASH) and subsequent cirrhosis. Unfortunately, no non-invasive test for NAFLD/NASH exists today and liver biopsy remains the “gold standard” for diagnosis of NAFLD/NASH. Therefore, new non-invasive diagnostic approaches are of great interest.

Objectives:

Recently the hepatic expression of two genes, fatty-acid binding protein 4 (FABP4) and matrix metalloproteinase 9 (MMP9), was identified as predictive marker for the progression to NASH. Here, we aim to test whether the serum levels of FABP4 and MMP9 could be used as a diagnostic tool for NASH.

Methods:

We included a total of 84 patients in this study, who underwent bariatric surgery and simultaneous liver biopsy. Blood samples were drawn shortly before the start of the operation and stored at -80°C until further analysis. MMP9- (Sigma-Aldrich) and FABP4- (AssayPro) Enzyme-linked Immunosorbent Assays (ELISA) were performed according to the manufacturer’s protocol. Liver biopsies were examined by an independent senior specialist in gastrointestinal pathology to diagnose NAFLD/NASH based on the NAFLD activity score (NAS) according to Kleiner et al. Finally, we compared the serum levels of FABP4/MMP9 levels among the groups.

Results:

We diagnosed NASH in 28 of the patients (33.3%), borderline NASH was diagnosed in 24 patients (28.6%) and the last 32 patients (38.1%) were deemed as healthy obese (HO). The FABP4 serum concentration was 30 ± 19.4 ng/ml and the MMP9 serum concentration was 9.9 ± 5.2 µg/ml. We detected significantly higher serum levels of MMP9 in the NASH patients compared to the HO patients (12.6 µg /ml vs. 8.1 µg/ml) ($p < 0.01$). The borderline patients had a mean MMP9 level between the other groups (9.1 µg/ml), but we did not find a significant difference compared to both other groups. FABP4 was slightly increased in the NASH group, however we did not observe a significant difference between all the groups. We also investigated whether the FABP4/MMP9 levels correlated with the NAS score and observed a modest correlation for MMP9 level ($R^2 = 0.11$, $p < 0.05$).

Conclusion:

MMP9 serum levels might be helpful in non-invasive NASH diagnosis. Combination with other clinical parameters might improve the value of MMP9 levels.

O-148

FACTORES RELACIONADOS A REGANANCIA DE PESO EN PACIENTES POSTOPERADOS DE PROCEDIMIENTOS BARIÁTRICOS DURANTE PANDEMIA COVID-19

Pre and post nutritional deficiencies

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Antecedentes:

Durante la pandemia de COVID-19, IFSO (Federación Internacional para la Cirugía de la Obesidad) recomendó que se pospusieran todos los casos quirúrgicos y endoscópicos electivos para cirugía metabólica y bariátrica. Además, tampoco se recomiendan las visitas clínicas y hospitalarias.

El aislamiento social por la pandemia COVID-19 llevó a cambios de estilo de vida en todos los seres humanos. En el encierro, la inactividad forzada se ha combinado con hábitos alimenticios alterados a menudo relacionados con problemas emocionales y estrés. Esta disminución de la actividad más el aumento en el consumo de alimentos altos en calorías y alimentos ultraprocesados es un factor fuertemente respaldado por las observaciones en entornos del mundo real. Además, la combinación de la educación en línea, el trabajo desde casa y el uso de las redes sociales ha provocado un aumento del tiempo frente a la pantalla.

Todos estos factores permiten plantear la hipótesis de un aumento del peso corporal durante estas semanas de encierro que probablemente tendrá repercusiones metabólicas en un futuro próximo y, posteriormente, un mayor riesgo de eventos cardiovasculares.

Objetivos:

Evaluar los factores relacionados con el aumento de peso durante el aislamiento en pacientes postoperados de procedimiento bariátrico.

Métodos:

Estudio retrospectivo, longitudinal, descriptivo. Durante el mes de marzo del presente año, se estudiaron 35 casos de pacientes postoperados de bypass gástrico o manga gástrica en nuestra Institutción con más de un año de seguimiento, donde se realizaron las mediciones antropométricas y laboratorios para vigilancia control.

Resultados:

En el periodo de estudio se estudiaron 35 pacientes, 25 bypass gástrico y 10 gastrectomías verticales.

El 55% de los pacientes, en seguimiento por más de 3 años, comenzaron con una reganancia de peso, aún cuando su evolución había sido favorable hasta antes de la pandemia.

Así mismo, como Resultados: de una encuesta de intrumento de validación, se observó que el 100% de los pacientes con reganancia se habían quedado desempleados durante la pandemia.

Conclusiones:

En conclusión, el aislamiento obsrvado durante la pandemia por el SARS-CoV-2 ha producido un aumento en el peso corporal autoinformado en sujetos obesos postoperados de procedimientos bariátricos. Este aumento está asociado a una disminución de la actividad física y la pérdida de visitas presenciales a la Unidad de Nutrición.

O-149

FACTORS ASSOCIATED WITH THE SELECTION OF SURGEON ONGOING TO BARIATRIC SURGERY

Behavioral, psycho-social and environmental predictors of bariatric surgery outcomes

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Background:

Several studies have focused on the importance place on quality factors when choosing a healthcare provider. In bariatric surgery, because of the specific nature of the disease and the heavy expectations by the bariatric patients, this process could be a difficult procedure until the therapeutic alliance be stabilized between patient and bariatric surgeon always based on quality factors.

Objectives:

The aim was to understand the process of choosing a bariatric surgeon and the variables or factors who determinate the final selection before bariatric surgery.

Methods:

For this purpose a qualitative phenomenological methodology was used by analyzing with thematic analysis the data provided from pre-bariatric patients. Clinical Health Interviews with open-ended semi-structural questions used to gather data about factors, characteristics, variables, qualities and elements who facilitate the decision-making ongoing to bariatric surgery. The sample (n=40) was organized in three seasons of interview at Thessaloniki, Greece. The first season for building trust and intimacy and the second and third for gathering information in depth.

Results:

Data identify multiple categories of variables and factors mediated on the decision-making process of selection a bariatric surgeon. First of all, the surgeon expertise (scientific and academic knowledge, updated methods of treatment, technical skills, certifications and awards, vulgarisation of knowledge, clinical experience). Secondly, the emotional factors and personality traits of the surgeon (optimism, feeling safe and trust, self-confidence, physical appearance, time to explain and giving answers, non-verbal behaviour, statement and philosophy for obesity). Additional influences such as the creation of therapeutic alliance (patient-centered approach, simplicity, acceptance, patience, respect, realistic expectations, complications and risks) and the located facilities (scientific staff, scientific team, hospital facilities, pre, peri and post-operative care, team coordination and appointment programming, team cohesion, group of patients, digital way of giving information) consist relative factors who contributes to the final decision. Finally, the decision-making cannot be influenced by others personals characteristics (age, race, ethnicity, gender, marital status, religion).

Conclusions:

Choosing a bariatric surgeon is challenging decision. Selection is often based on information from internet, Facebook, marketing, by mouth-to-mouth from other patients, but certainly indirectly before the first attempt face-to-face with the surgeon. Recognizing the quality factors who affects the final selection can be helpful not only by the patients but also for bariatric surgeons and their adaptation to the demanded skills and quality characteristics.

O-150

FACTORS THAT PREDICT RESOLUTION OF DIABETES AFTER BARIATRIC SURGERY – A SINGLE CENTRE ANALYSIS

Type 2 diabetes and metabolic surgery

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Background:

Although bariatric surgery is an established management option for Type 2 Diabetes Mellitus (T2DM), data on the specific patient or disease factors that are likely to improve glycaemic control are scarce.

Objective:

To investigate the impact of diabetes duration, medication, and patient demographics on glycemic control after bariatric surgery.

Methods:

A cohort analysis of consecutive diabetic patients who underwent bariatric surgery in our tertiary referral centre between April 2017 and March 2018 was conducted. Primary outcome was remission of T2DM defined as HbA1c <48 and not requiring diabetic medication 12 months after surgery. Regression analysis considered diabetes duration, type of surgery, combination of anti-diabetic medication, age, body mass index (BMI), weight, and excess weight loss (EWL).

Results:

105 patients with T2DM underwent bariatric surgery (89 Roux-en-Y gastric bypass and 16 sleeve gastrectomy), with a median follow-up of 19 months (IQR 13-24 months). Median weight and BMI on the day of surgery was 125kgs (IQR 103.9-138.7) and 42.4kg/m2 (IQR 39-46.8), respectively. 68 patients (64.8%) demonstrated T2DM resolution at last follow-up. More than one anti-diabetic medication (OR 0.13, 95% CI 0.04-0.44, p=0.001), insulin therapy (OR 0.09, 95% CI 0.03-0.31, p=<0.001), and SGLT2 inhibitor (OR 0.23, 95% CI 0.05-0.92, p=0.04) were significant negative predictors of remission post-operatively. Similarly, longer duration of diabetes pre-operatively increased the likelihood of persistent diabetes post-surgery (OR 11.20, 95% CI 1.41-88.84, p=0.02). Type of operation (p=0.34), pre-operative BMI (p=0.99), and % EWL (p=0.83) did not predict remission.

Conclusion:

Our study reaffirms bariatric surgery should be considered as a treatment of T2DM in obese patients. Multiple anti-diabetic drugs and longer duration of T2DM predicted continuity of T2DM post-operatively, independent of weight loss. Longer follow-up durations are warranted to validate our findings.

O-151

FAST-TRACK PHARMACEUTICAL BRIDGING THERAPY TO URGENT WEIGHT-LOSS SURGERY IN MULTIMORBID PATIENTS WITH SUPER-SUPER-OBESITY – A PROOF OF CONCEPT STUDY

Perioperative management

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Background:

Bridging therapy to weight-loss surgery is mandatory in super-super-obesity (BMI ≥ 65 kg/m2). Intragastric balloon, the current standard bridging intervention, allows operability to be achieved after 6 months. In patients with severe associated comorbidities, a fast-track therapy enabling rapid operability is urgently needed.

Objective:

We aimed to discover whether Liraglutide, a glucagon-like peptide-1 (GLP-1) receptor agonist and known inducer of weight loss, administered in combination with a leucine-based amino acid infusion and a low-caloric diet (mixed-meal, 1000 kcal), would accelerate pre-surgical weight loss and reduce liver volume in patients with super-super-obesity.

Design:

In this proof-of-concept study, prospective data from patients who received pharmacological therapy and diet (intervention group1, n=26) were mathematically matched with retrospective data of 26 patients (historic control group2), who underwent standard bridging with intragastric balloon (IB). An emergecy score was developed to define the bariatric patient, who needs urgent treatment that cannot be postponed.

Results:

Operability was achieved in all patients. Mean body weight of group1 was 236.3 ± 35.8 kg and 230.1 ± 32.7 kg in group2. Mean body weight loss was 27.5 ± 14.1 kg in group1 and 20.9 ± 10.5 kg in group2 (P= 0.0629). Bridging duration in days was 20.7 ± 6.9 in group1 compared with 212.7 ±20.7 days in group2 (P < 0.0001).

Conclusions:

The combination of liraglutide, leucine-based amino acid infusion and low-calorie diet effectively induced pre-operative weight loss in multi-morbid super-super-obese patients requiring urgent weight-loss surgery: Not only was operability achieved, but the duration of pre-operative preparation was markedly reduced.

O-152

FEASIBILITY AND SAFETY OF SAME-DAY DISCHARGE AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN PATIENTS WITH WELL-REGULATED OBSTRUCTIVE SLEEP APNEA

Enhanced recovery in bariatric surgery

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Introduction:

Bariatric surgery in ambulatory care setting is rising. In current practice, patients with only minor comorbidities are considered eligible for same-day discharge after Laparoscopic Roux-en-Y Gastric Bypass (LRYGB).
Obstructive Sleep Apnea(OSA) is a common comorbidity in morbid obese patients, with a prevalence around 70-80% among patients undergoing bariatric surgery(2-5). Continuous positive airway pressure (CPAP) is considered the gold standard treatment for OSA. Currently, bariatric patients using CPAP are not considered eligible for same-day discharge.

Objectives:

In the present study we aim to investigate if same-day discharge supported by remote monitoring is feasible and safe for patients with OSA undergoing LRYGB.

Methods:

The study population includes morbidly obese patients (according to IFSO criteria) aged between 18 and 65 years and with a BMI <50 kg/m2. Furthermore, participants are without significant cardiovascular and/or pulmonary diseases or a history of large abdominal surgery, and are adequately treated for OSA with CPAP. Participants are operated according to standard protocol. There are strict criteria set for a patient to be discharged safely, including stable vital signs, good clinical condition and decrease in Hemoglobin-level of 1.0 mmol/L or less. If there are any abnormalities or complications during the surgical procedure or during observation postoperative, patients will not be discharged. The bariatric surgeon has to give final approval and the patient has to feel confident going home, in order to proceed upon same-day discharge. Participants are obliged to use their CPAP in the first nights at home to minimize the risk of complications.

Results and Conclusion:

Currently 39 participants have been included and operated in this study, since we started in November 2021. At the time of the congress, we will be able to present the final results of more than 50 participants. With this data, we hope to confirm our hypothesis that same-day discharge for bariatric patients with well-regulated OSA is feasible, without undermining the safety of the patients.

O-153

FEASIBILITY OF AN OPIOID SPARING DISCHARGE PROTOCOL FOLLOWING LAPAROSCOPIC BARIATRIC SURGERY

Perioperative management

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Background:

Opioids are commonly prescribed analgesics following surgery but have potential untoward effects including dependence and diversion. Our prior investigations revealed that over three-fourths of the opioids we prescribed at discharge to our laparoscopic bariatric surgery patients went unused.

Objectives:

To determine the feasibility of an opioid sparing discharge protocol following laparoscopic bariatric surgery.

Methods:

A total of 212 opioid naïve patients undergoing laparoscopic bariatric surgery were examined and divided into two groups; 106 prior to (Cohort A) and 106 after implementation of an opioid sparing discharge protocol (Cohort B). Opioid and non-opioid analgesic consumption postoperatively both during hospitalization and after discharge were compared. All patients underwent intraoperative bilateral transversus abdominis plane blocks. Patients using opioids preoperatively were excluded. Opioids were converted to morphine milligram equivalents (MME).

Results:

Our study population had a mean age of 43.7, mean BMI of 46.8, 66% identified as White race and 88% were female. They underwent laparoscopic sleeve gastrectomy (72%) or gastric bypass (28%) and the length of stay was one day for 89% (189). There were no differences between cohorts with regards to demographics, BMI, comorbidities, length of stay, complications, emergency room visits, or readmissions. No patients in Cohort B and 54.7% (58) in Cohort A received an opioid discharge prescription (37.5 MME). Only 1.9% (2) of the patients in Cohort B required an opioid prescription after discharge. Of the 154 patients not receiving a discharge opioid prescription only 1.3% (2) required one after discharge. Cohort A took greater amounts of opioids than Cohort B after discharge (4.74 ± 11 vs. 0.28 ± 2 MME; p<0.001) but acetaminophen and celecoxib use were similar. During hospitalization Cohort A took greater amounts of opioids (6.92 ± 11 vs. 2.74 “±” 5 MME; p<0.001) but lower amounts of methocarbamol (759 ± 590 vs. 966 ± 585 mg; p = 0.011). No patients developed acute kidney injury or liver dysfunction.

Conclusion:

Following laparoscopic bariatric surgery an opioid sparing discharge protocol is feasible with less than 2% of patients requiring an opioid prescription after discharge and no increase in emergency room visits. Greater utilization of other non-opioid analgesics may reduce the amount of opioids taken during hospitalization.

O-154

FIFTEEN YEARS AFTER SLEEVE GASTRECTOMY: WEIGHT LOSS, REMISSION OF COMORBIDITIES, QUALITY OF LIFE, AND CONVERSIONS TO ROUX-EN-Y GASTRIC BYPASS – LONG-TERM FOLLOW-UP IN A MULTICENTER STUDY

Sleeve gastrectomy

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Background:

Since 2014 Sleeve gastrectomy (SG) has been the most frequently performed bariatric operation with over 55% of all procedures per year. Currently, only a few studies present follow-up results up to 11 years after SG.

Objectives:

The aim of this study is to evaluate the long-term outcome of SG with a follow-up of at least 15 years in terms of weight loss, remission of comorbidities, conversions, and patient's QOL.

Setting:

Multicenter cross-sectional-study; University hospital-based.

Methods:

This study includes all patients who had SG before December 2005 at the participating bariatric centers. Patients' history of weight, comorbidities, conversions, and QOL were evaluated by interviewing them in our bariatric center.

Results:

Fifty-three patients met the inclusion criteria of a minimal follow-up of 15 years. Weight and Body mass index at the time of the SG were: 136.8kg and 48.7kg/m2. 26 patients (49.1%) were converted to Roux-en-Y Gastric Bypass (RYGB) due to weight regain and reflux within the follow-up period. The Excess weight loss after 15 years was 57.7% in the non-converted group and 65.7% in the converted group. Patients' remission rates of comorbidities and QOL were stable over the long-term follow-up period.

Conclusion:

15 years after SG a stable postoperative weight was observed but at the cost of a high conversion rate. Patients converted to RYGB were able to achieve further weight loss and preserve good remission rates of comorbidities. Patients without the need of a conversion to another bariatric procedure can be denoted as successful. Therefore, a careful preoperative patients' selection is mandatory when performing SG in obese patients.

O-155

FIFTY CM COMMON LIMB IN A ONE ANASTOMOSIS GASTRIC BYPASS

Hypo-absorptive procedures

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Background:

Laparoscopic one anastomosis gastric bypass (OAGB) is increasing in popularity nowadays. Despite comparable weight loss to other bariatric and metabolic procedures and improvements in metabolic outcomes, its nutritional complications remain an important factor to consider.

Objective:

To present an interesting case of post bariatric surgery complication and how it was approached.

Methods:

A case report study type and literature review.

Case presentation:

A 50-year-old lady, 12-month post OAGB with a pre-operative BMI of 51, was complaining of fatigability, recurrent vomiting and diarrhea, peripheral numbness, extreme weight loss and skin rash. After a month of nutritional support and a thorough multidisciplinary approach, she was taken for laparoscopic exploration. Bilio-pancreatic limb measured more than 300 am, while the common limb was extremely short. As a consequence, a reversal of the anastomosis was done and a gastro-gastric anastomosis was constructed.

Results:

We report an approach to a case of protein energy malnutrition as a complication of OAGB.

Conclusion:

Clinicians should be aware of possible complications after OAGB due to the serious consequences and the high mortality rate if not managed properly. Furthermore, multidisciplinary management is crucial, and proper timing of revisional surgery is necessary to achieve the best results.

O-156

FIRST CASE REPORT OF NON-PERFORATION PNEUMOPERITONEUM AFTER INTRAGASTRIC LIQUID-FILLED BALLOON PLACEMENT (IGB)

Endoscopic and percutaneous interventional procedures

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Introduction:

In Brazil, the prevalence of obesity is a major public health problem and IGB placement is commonly used as a non-operative strategy among bariatric patients, with liquid-filled balloons being highly accessible, safe and efficient.

Objective:

To report the case of a non-perforation pneumoperitoneum after ten days of liquid filled IGB insertion, treated conservatively with good clinical response.

Method:

42-year-old female with Body Mass Index of 31,1 Kg/m2 and no previous comorbidities who underwent IGB placement (B flex / GFE – 6 months program) for the third time (first in 2013, second in 2017) under endoscopic direct visualization. The balloon was positioned in gastric fundus and filled with sterile 0.9% saline and 2% methylene blue totalizing 620mL of solution, with no intra or post-operative complications. Nine days after, presented with nausea, vomiting and epigastric pain, refractory to intravenous analgesia and prokinetics. Upper Endoscopy (UE) showed mild distal erosive esophagitis (Los Angeles B) and no signs of perforation, leakage, bleeding or ulcers. The balloon was placed in gastric fundus. Because of persisting symptoms, abdominal double contrast CT scan was solicited, showing small gas bubbles inside the peritoneal cavity, adjacent to stomach and under the diaphragm (small pneumoperitoneum). There was no oral contrast leakage into the abdominal cavity. Opted for immediate UE and IGB removal. Careful revision of the gastric wall was performed, the stomach was completely inflated and there were no signs of bleeding - no gastric, duodenal or esophageal laceration/perforation was identified. Then, conservative treatment was chosen, maintaining Nil Per Os (NPO), IV analgesics, prokinetics and antibiotics for 24 hours. After, a new CT scan was performed, showing the same small volume pneumoperitoneum, especially next to the lesser curvature gastric wall and liver left lobe. Duodenal and right colon wall thickening was also reported. Even though, oral intake was initiated and after 24 hours of clinical observation, the patient was discharged.

Conclusion:

Since CT-Scan and UE were not able to identify any point of perforation in esophagus, stomach or duodenum, we conclude this is the first case report of non-perforation pneumoperitoneum associated to intragastric balloon placement. IGB removal and conservative clinical management seem to be safe and effective for the treatment of this complication.

O-157

FIVE-YEAR OUTCOME OF PATIENTS AFTER LAPAROSCOPIC ONE ANASTOMOSIS GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Bariatric surgery is a well known procedure for managing obesity. One Anastomosis Gastric Bypass (OAGB) is the third most common bariatric procedure after laparoscopic sleeve gastrectomy (LSG) and Roux en Y gastric bypass (RYGB). OAGB has been shown to be effective in weight loss as well as improvement of comorbidities especially diabetes. It also results in a positive outcome concerning the quality of life of patients who undergo this procedure.

Objectives:

To study the outcomes of OAGB five years or more after surgery. All vitamins, minerals, physical and comorbids outcomes are assessed and reported.

Methods:

We reviewed all patients who underwent OAGB in our unit and who completed five years or more after surgery. A blinded questionnaire was filled by patients and laboratory investigations were done including different minerals, vitamins, lipids and iron studies. In addition, different comorbidities were studied and analyzed in the form of improvement, stationary course or worsening after surgery.

Results:

Data showed promising results in the form of improvement of general life style and quality of life of patients. Most comorbidities improved and had a positive impact on patients. There was no significant drop of vitamins, minerals and iron among most patients.

Conclusion:

OAGB seems to be a safe and effective procedure. Further larger comparative studies are needed to compare its outcomes with other bariatric procedures.

O-158

FIVE-YEAR OUTCOME OF PEDIATRIC PATIENTS WHO UNDERWENT BARIATRIC SURGERY

Bariatric surgery in the pediatric age group, how young should we go?

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Introduction:

Bariatric surgery is a well known procedure for managing obesity. The role and outcomes of different bariatric procedures among the pediatric population is still not clear. Several studies reported positive outcomes for it, however; other still doubt it"s benefit and safety in this age group. Moreover the youngest age to undergo bariatric surgery is still a matter of debate.

Objectives:

To study the outcomes of different bariatric procedures five years or more after surgery in the pediatric population (<18 years). All vitamins, minerals, physical and comorbids outcomes are assessed and reported.

Methods:

We reviewed all young patients (<18 years) who underwent bariatric surgery in our unit and who completed five years or more after surgery. A blinded questionnaire was filled by patients and laboratory investigations were done including different minerals, vitamins, lipids and iron studies. In addition, different comorbidities were studied and analyzed in the form of improvement, stationary course or worsening after surgery. The rate of growth was also assessed.

Results:

Data showed promising results in the form of improvement of general life style and quality of life of patients. Most comorbidities improved and had a positive impact on patients. There was no significant drop of vitamins, minerals and iron among most patients. The rate of physical growth was not affected in these patients.

Conclusion:

Bariatric surgery seems to be a safe and effective procedure in the pediatric age group. Further larger comparative studies are needed to compare its outcomes of different bariatric procedures and to recommend the youngest age group where bariatric surgery can be safely done.

O-159

FRAGILITY OF STATISTICALLY SIGNIFICANT OUTCOMES IN RANDOMIZED TRIALS COMPARING BARIATRIC SURGERIES

Post-operative complications

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Background:

Randomized controlled trials (RCTs) are regarded as high-level evidence, but the strength of their p-values can be difficult to ascertain. The Fragility Index (FI) is a novel metric that evaluates the frailty of clinical trial findings. It is defined as the minimum number of patients that would be required to change from a non-event to event for the findings to lose significance. This study aims to characterize the robustness of bariatric surgery RCTs through their FI scores.

Methods:

A search was conducted in MEDLINE and EMBASE from January 2000 to February 2022 for RCTs comparing two bariatric surgeries with statistically significant dichotomous outcomes. Two reviewers independently completed article screening, evaluated risks of bias, and performed data extraction. Bivariate correlation was conducted to identify associations between FI and trial characteristics.

Results:

A total of 35 RCTs were included. The median sample size was 80 patients (Interquartile range [IQR] 58-109) and the median total events was 25 (IQR 10-40). The median FI was 2 (IQR 0-5), meaning that switching two patients in one treatment arm from a non-event to event will overturn the significant result to non-significant. Increasing FI was found to be correlated with decreasing p-value, increasing sample size, increasing number of total events, and increasing journal impact factor.

Conclusion:

Bariatric surgery RCTs are not robust, with the statistical significance of most studies reversible by changing the status of a few patients in one trial arm. Future research should examine the use of FI in trial designs.

O-160

FROM NISSEN TO ROUX-EN-Y GASTRIC BYPASS, TIJUANA EXPERIENCE

GERD and bariatric surgery

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Introduction:

Gastroesophageal reflux disease (GERD) is a common condition strongly associated with obesity. (1, 2) GERD is one of the main reasons obese patients seek surgery. (2, 3) However, before the rise of bariatric surgery, fundoplication was considered the treatment of choice for GERD. (1, 4) Due to the epidemic of obesity and the rise of surgery as an excellent strategy, more patients will seek this as an answer, even those with previous surgeries like fundoplications. (5, 6, 7).

Objectives:

Many obese patients have undergone an antireflux procedure and require bariatric surgery. This abstract describes the clinical characteristics of our patients and their results.

Methods:

A retrospective review of 454 patients who underwent RYGB between January 2020 and January 2021 was performed to identify all patients with prior Nissen. Eleven patients were identified. Perioperative data was collected by chart review, and follow-up data was collected twelve months later.

Results:

A total of 354 laparoscopic RGYB procedures were done; of these, 11 had previous Nissen. The average body mass preoperative was 41 kg/m2. Of the eleven patients, 2 had GERD symptoms preoperatively, and both had esophagitis on the endoscopy and a hypotensive lower esophageal sphincter. The manometry findings of the rest of our patients were normal. Unfortunately, PH-meter study was not available. All operations were performed using a 5-port technique and consisted of complete wrap takedown and hiatus closure if needed, with conversion to RGYB. No conversions to open surgery were required. In all cases, intraoperative EGD and videofluoroscopy were done to evaluate complications.

Table 1 summarizes all the results.

Conclusions:

Conversion from Nissen fundoplication to RYGB is technically more challenging, and complications are more common primarily due to the adhesions, associations with hiatal hernia, and the presence of the wrap. (40% postoperative morbidity and up to 20% of reoperations). (8)

Despite all this, RYGB seems to be the procedure of choice for patients who have previously undergone fundoplication(1, 9); further studies are necessary to address the durability of GERD relief and weight loss in these patients since an increasing number of patients might require a bariatric procedure after previous Nissen fundoplication.

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Table 1: Clinical Characteristics of the eleven patients that were converted from a Nissen into a RYGB.

Gender	Age	Preoperative BMI	Comorbidities	Time between fundupolication and RYGB (months)	Operative Time (min)	Anatomic Findings	Perioperative Complication	Length of stay (days)	%EWL = percent excess weight loss	Recurrent or persistent GERD	Improvement of comorbidity
M	50	43	Diabetes, GERD, Hypertension	24	225	Wrap Disruption, hiatal defect	Bleeding	5	42%	Yes	(Partially)
F	31	44	-	120	220	Slipped Nissen	-	3	91%	-	-
F	47	45	Diabetes	240	200	Intact Wrap	-	4	72%	-	Yes
F	53	44	None	250	250	Intact Wrap	-	4	80%	-	-
F	53	39	Hypertension, Hyperlipidemia , Depression	16	190	Intact Wrap	-	3	86%	-	Yes
F	38	40	-	13	250	Intact Wrap	-	3	70%	-	-
F	46	47	Arthritis, Anxiety, GERD	180	230	Wrap Disruption, hiatal defect	-	4	77%	-	Yes
F	42	41	-	22	210	Intact Wrap	-	3	70%	-	-
M	48	38	Diabetes	150	210	Intact Wrap	-	3	80%	-	Yes
F	54	38	Hypothyroidis m	74	220	Intact Wrap	-	3	81%	-	No
M	56	42	Diabetes, Anxiety	120	220	Intact Wrap	-	3	86%	-	Yes

O-161

FULLY AMBULATORY ROBOTIC SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS: 25 CONSECUTIVE PATIENTS IN A SINGLE TERTIARY CANADIAN BARIATRIC CENTER

SADIs

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Introduction:

Consequently to the COVID-19 pandemic situation, bariatric procedures have been delayed. As part of the field of ERAS development and thanks to our strong experience in ambulatory Sleeve Gastrectomy (SG), we established a day-surgery single anastomosis duodeno-ileal bypass (SADI) program.

Objectives:

SADI is becoming a key revisional option following SG, however its safety as a fully ambulatory procedure (length of stay < 12 h) has not yet been described.

Methods:

We performed a prospective bariatric study of 25 patients having had robotic second step SADI as a one-day surgery. Patient enrollment was initiated in April 2021. Inclusion criteria were: Age < 55yo with BMI ≤ 50 kg/m2, ASA score I or II, or III if cleared by internist, moderate or severe obstructive sleep apnea syndrome if well controlled with CPAP, Obesity Surgery Mortality Risk score grade A or B and residence within 40km radius from hospital. Exclusion criteria were: age ≥ 55yo, BMI > 50 Kg/m2, ASA score ≥ IVc, Obesity Surgery Mortality Risk score grade C, Insulin-dependent diabetes, poorly controlled hypertension, complex previous abdominal surgeries. ERAS protocols were applied. Anesthetic protocols and robotic procedure were standardized. Dissection and transection of the duodenum was performed 2 cm distal to the pylorus. The duodeno-ileostomy was handsewn, 250-300cm from the ileo-caecal valve. A leak test is performed at the end of the procedure. A phone call at POday1 and regular office follow-up were conducted afterwards.

Results:

25 patients (96/4% F/M, mean age: 39yo), with mean preoperative BMI= 40 kg/m2, were operated in a median delay of 56 months (21-114) after the SG. Associated comorbidities were present in 4/25 patients: hypertension (2); OSA (1) and DBII (1). Mean total operative time was 123min (100-180) (mean robotic part: 65min (45-85)). Five patients (20%) had a concomitant primary hiatal hernia repair. Abdominal drain was left in place in 8 cases (32%). All patients were discharged home the day of surgery, at least 6 hours after the end of the surgery. 30 days post-op morbidity occurred in 2 cases (8%): 1 intra abdominal abscess POday20 (percutaneous drainage and antibiotics) and 1 duodeno-ileal leak POday1 (surgically treated). One patient had abdominal pain on POday2 (conservatively treated), driving the readmission rate at 12% (n=3). All patients recovered well. There was no mortality.

Conclusion:

Robotic SADI can be performed safely as one day surgery with appropriate patient selection.

O-162

FUNCTIONAL LAPAROSCOPIC GASTRIC BYPASS WITH FUNDECTOMY AND GASTRIC REMNANT EXPLORATION (LRYGBFSE): 10-YEAR FOLLOW-UP RESULTS

Long Term Results (> 10 years)

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Introduction:

Laparoscopic Roux-en-Y gastric bypass is a safe and effective form of bariatric surgery. However, there are some complications known to occur after this procedure. We report three new cases of gastric remnant perforation after Roux-en-Y gastric bypass. The first case is a 38-year-old male who presented with acute abdominal pain 9 years after gastric bypass. The second case is a 47-year-old female with subacute abdominal pain 5 years after gastric bypass. Lastly the third case is a 30-year-old male who presented with acute epigastric pain, 2 years after gastric bypass. All patients underwent an explorative laparoscopy with closure of the perforation and omentoplasty. Here we discussed the clinical presentation, investigation and management of gastric remnant perforation.

Objectives:

We present three cases of abdominal pain due to gastric remnant perforation a few years after laparoscopic Roux-en-Y gastric bypass.

Methods:

This is a case series of retrospective review regarding three patients with postoperative complications after laparoscopic Roux-en-Y gastric bypass. Both diagnosis and management happened in the same institution.

Results:

In all three cases, the patient presented with (sub)acute abdominal pain, mainly in the epigastric region. Blood analysis showed elevated inflammatory parameters. Ultrasound and CT-scan showed free fluid in the abdomen, remarkably without any signs of perforation and/or herniation. We performed an explorative laparoscopy in all cases. On exploration, a gastric remnant perforation was identified. The defect was closed in an interrupted fashion with sutures. Additionally, an omentoplasty was performed to cover the repair. The patients postoperative course was uneventful. All symptoms improved after surgery. A few days after surgery the patients were discharged after drain removal with a proton pump inhibitor.

Conclusion:

Based on the few reports regarding this complication in literature, analysis of these cases suggests that gastric remnant perforation after laparoscopic Roux-en-Y gastric bypass is an uncommon postoperative complication. Pathogenesis of these perforations are multifactorial. Detection of this postoperative complication is difficult since imaging is sometimes not conclusive and therefore cannot exclude a perforation. A definite diagnosis can be made when performing an explorative laparoscopy. Inspection of the gastric remnant is essential to avoid missed perforation.

O-163

GASTRIC BYPASS IS SUPERIOR TO SLEEVE GASTRECTOMY IN LONG-TERM IMPROVEMENT OF LDL AND HDL CHOLESTEROL AND CARDIAC RISK RATIO

Cardiovascular risk and bariatric surgery

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Background:

LDL cholesterol is a predictor of cardiovascular risk and the American Heart Association recommends levels of 2.59-3.36mmol/L, whilst HDL is cardioprotective and levels of >1.55mmol/L are recommended. Bariatric surgery can reduce the cholesterol-associated risk but studies are limited by follow up of only 1 year or significant loss of patients to follow up in longer studies.

Objectives:

The aim of this study was to compare the long-term effect of laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass on cholesterol profile and the prescription of statin therapy in this cohort.

Methods:

119 consecutive patients were included in the study of which 58 patients underwent sleeve gastrectomy and 61 patients underwent gastric bypass. Cholesterol levels were regularly monitored and managed by the patients' primary care physicians. Statistical analysis was carried out using SPSS.

Results:

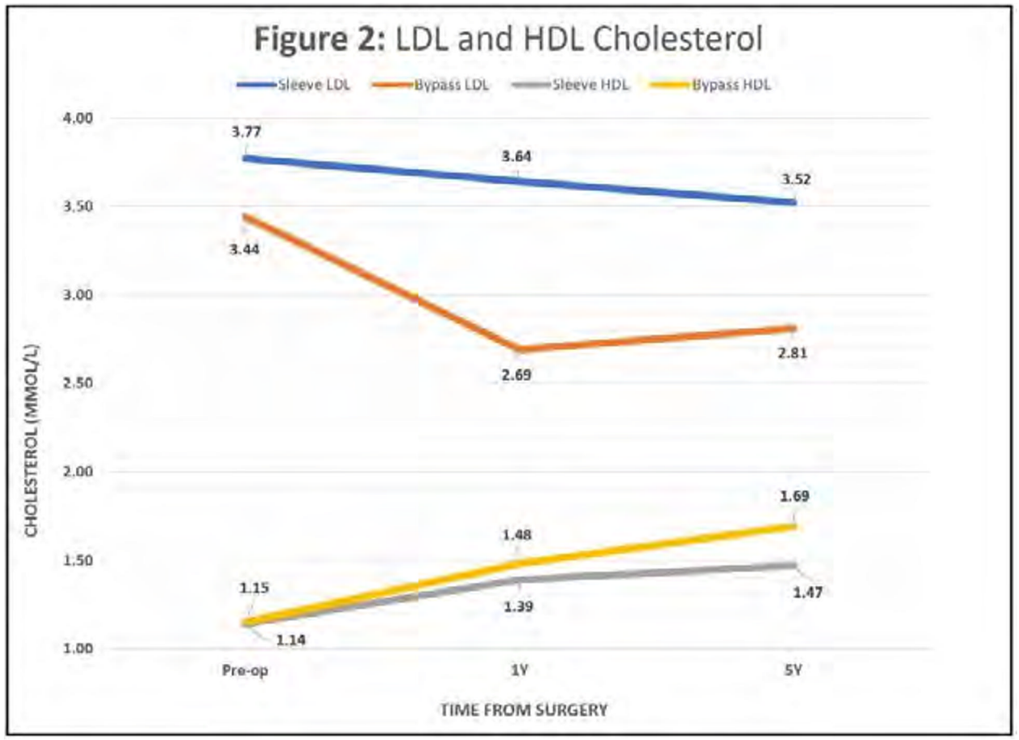
There was no significant difference in baseline characteristics between sleeve and bypass groups (age, gender, BMI) and there was 100% follow up at 5 years. There was reduction in total/HDL ratio (cardiac risk ratio) in both groups at 1 year, but this plateaued in the sleeve group at 5 years, whilst the bypass group continued to improve (Figure 1). At 5 years LDL was significantly lower and HDL significantly higher in the bypass group (Table 1, Figure 2). Statin use was lower at 5 years compared to baseline in the bypass group whilst statin use was higher in the sleeve gastrectomy group at 5 years compared to baseline.

Conclusion:

Laparoscopic Roux-en-Y gastric bypass results in significant reduction of total cholesterol, LDL and total/HDL ratio with an increase in HDL compared with laparoscopic sleeve gastrectomy at 5 years. In the bypass group LDL and HDL levels at 5 years are optimal according to AHA guidance, achieved with a reduction in use of statins. In our cohort, bypass is superior to sleeve in reducing the associated cardiac risk from hypercholesterolaemia.

Table 1: Full Cholesterol Profile

		Sleeve	Bypass	P-value
Baseline (median)	Total Cholesterol	4.90	4.72	*0.411*
	LDL	3.77	3.44	*0.638*
	HDL	1.14	1.15	*0.411*
	Total/HDL ratio	3.95	3.95	*0.699*
1 Year (median)	Total Cholesterol	4.97	4.16	***0.002***
	LDL	3.64	2.67	***<0.001***
	HDL	1.39	1.48	*0.487*
	Total/HDL ratio	3.40	2.80	***<0.001***
5 Years (median)	Total Cholesterol	5.18	4.61	***0.012***
	LDL	3.52	2.81	***<0.001***
	HDL	1.47	1.69	***0.037***
	Total/HDL ratio	3.40	2.60	***<0.001***



O-164

GASTRIC BYPASS IS SUPERIOR TO SLEEVE GASTRECTOMY IN TREATING TYPE 2 DIABETES MELLITUS: A 5-YEAR STUDY WITH 100% FOLLOW UP

Type 2 diabetes and metabolic surgery

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Background:

The prevalence of type 2 diabetes is increasing with a predicted 700 million cases worldwide by 2045. Laparoscopic metabolic surgery is offered as a treatment modality for type 2 diabetes. Long term data is sparse, making the choice of operation challenging.

Objectives:

The aim of this study was to compare the long-term outcomes of laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass in patients with type 2 diabetes.

Methods:

A training bariatric surgical unit went through phased introduction of procedures. This commenced with 20 laparoscopic gastric bands, followed by 70 laparoscopic sleeve gastrectomies and thereafter 70 bypasses. All patients received similar perioperative and postoperative care. Consecutive patients were selected from the prospectively maintained database. Patients who had revisional procedures were excluded. This resulted in 58 patients and 61 patients who underwent sleeve gastrectomy and gastric bypass respectively. Resolution of type 2 diabetes was defined as cessation of pharmacologic diabetic agents and HbA1c (glycated haemoglobin) of less than 48mmol/mol (6.5%). Statistical analysis was carried out using SPSS.

Results:

Of the 119 patients, there were 42 with type 2 diabetes. 18 underwent laparoscopic sleeve gastrectomy and 24 underwent laparoscopic Roux-en-Y gastric bypass. The baseline characteristics for both groups were similar as shown in Table 1.

Table 1: Baseline Characteristics

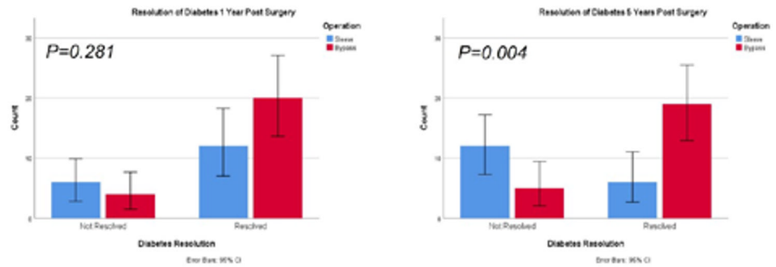
	Sleeve	Bypass	P-value
Age	51.8	48.5	0.790
BMI	53.3	49.7	0.199
Gender (F)%	66.7	62.5	0.780
HbA1c	55.0	63.0	0.534

There were no mortalities, and no patients were lost to follow up. At 1-year diabetes resolution did not differ significantly between groups (Bypass 83.3% vs Sleeve 66.7%, p=0.281). However, at 5 years the rate of diabetes resolution was higher in the bypass group (79.2% vs 33.3%, p=0.004) (Figure 1). Median HbA1c was significantly lower at 5 years in the bypass group (40.0 vs 51.5, p=0.008). No patients in the bypass had deterioration in their diabetes (0.0% vs 44.4%, p<0.0001) (Figure 2).

Conclusion:

Laparoscopic Roux-en-Y gastric bypass results in sustained resolution of diabetes compared with laparoscopic sleeve gastrectomy at 5 years. Sleeve gastrectomy can result in deterioration of diabetes from baseline and therefore cannot be recommended to treat type 2 diabetes.

Figure 1: Resolution of Diabetes by Operation



O-165

GASTRIC BYPASS VS SLEEVE GASTRECTOMY SHORT-TERM OUTCOMES IN SUPEROBESITY: A SINGLE-CENTER ANALYSIS

Basic science and research in bariatric surgery

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Background:

Superobesity (BMI ≥ 50 kg/m2) is associated with substantial morbidity and mortality. While the most common bariatric procedures are well stablished in milder forms of the disease, patients with superobesity remain a unique challenge as they present higher operative risk and may produce suboptimal results with the conventional methods. Our aim was to assess the effectiveness and safety of laparoscopic Roux-en-Y gastric bypass (RYGB) and sleeve gastrectomy (SG) in superobese patients

Methods:

We performed a retrospective observational study of 46 patients with superobesity submitted to either RYGB (n=19) or SG (n=27) in 2019 at a specialized high-volume bariatric unit. The primary endpoint was to assess weight loss and comorbidities resolution at 6- and 12-months follow-up. Secondarily, postoperative complications were also evaluated.

Results:

Successful rates of weight loss after surgery showed no significant differences between SG and RYGB, both %EWL ≥ 50% (73.7% vs 92.3 at 6 months and 92.3% vs 100.0% at 12 months, respectively) and %TWL ≥ 20% (96.3% vs 100.0% at both time periods, respectively). Remission and improvement rates of obesity-related comorbidities were comparable between SG and RYGB (66.7% vs 62.5% in Diabetes, 66.7% vs 70.0% in Hypertension, 57.1% vs 55.6% in Dyslipidemia and 37.5% vs 50.0% in Obstructive Sleep Apnea, at 12 months follow-up, respectively). Operative time was lower for SG ($p<0.001$) and one (5,3%) perioperative complication was observed in the RYGB group. Postoperative complications were the same for both groups (one in each), with one patient in the RYGB group requiring readmission and reintervention (postoperative bleeding).

Conclusion:

In our study population, SG and RYGB seems to be effective and safe procedures for patients with superobesity, with comparable outcomes in the first year.

O-166

GASTRIC BYPASS VS. SLEEVE GASTRECTOMY OUTCOMES IN SUPEROBESITY: A SYSTEMATIC REVIEW AND METANALYSIS

Basic science and research in bariatric surgery

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Introduction:

LRYGB and LSG may present sub-optimal results in superobesity (SO) when compared with milder forms of the disease. However, they can also be safer than more complex procedures, therefore the choice of the best bariatric technique in this subgroup of patients is fairly debatable. This study aimed to summarize and critically appraise the available evidence on weight loss and resolution of comorbidities of laparoscopic Roux-en-Y gastric bypass (LRYGB) and laparoscopic sleeve gastrectomy (LSG) in super-obese patients (BMI ≥ 50Kg/m2).

Methods:

A meta-analysis was performed by systematically identifying comparative studies conducted until the end of October 2020 investigating weight loss outcome and resolution of comorbidities after LRYGB and LSG in SO. The primary endpoint was weight loss after LRYGB versus LSG and the secondary endpoint was resolution of co-morbidities following these techniques.

Results:

Sixteen studies comprising 53858 patients were included in the qualitative synthesis, from which 8 were integrated in the meta-analysis. Follow-up ranged from 6 to 72 months. The pooled result for weight loss outcomes showed a significant difference at 6- and 12-months weight loss in favor of LRYGB, but not at 24 months. Our study demonstrated no significant difference for resolution of comorbidities except for dyslipidemia at 12 months, in which LRYGB had significant better results.

Conclusion:

LRYGB achieved improved weight loss at 6 and 12 months and had a higher dyslipidemia resolution rate at 1 year than LSG. There was no significant difference between procedures for resolution of the other comorbidities studied.

O-167

GASTRIC DIVERSION IS AN EFFECTIVE ANTI-REFLUX OPERATION FOR INTRACTABLE GASTROESOPHAGEAL REFLUX DISEASE IN THE SETTING OF OBESITY AND AFTER FAILED TRADITIONAL ANTI-REFLUX SURGERY

GERD and bariatric surgery

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Introduction:

Gastric diversion (GD), a version of the Roux-en-Y gastric bypass, is considered by many as the treatment of choice for patients with gastroesophageal reflux disease (GERD) and a high BMI. However, the outcomes of GD as a primary treatment for intractable GERD or after traditional anti-reflux surgery (ARS) are largely unknown.

Objectives:

The aim of this study is to determine the benefit of GD in intractable GERD patients and the impact of previous failed ARS on subsequent GD outcomes.

Methods:

We retrospectively analyzed 43 patients who underwent GD for intractable GERD over a 6-year period and categorized them into 2 groups: 1) prior Nissen fundoplication (NF) (n=17) and 2) no prior NF (no NF; n=26). Complications, reinterventions, and GERD resolution (assessed by GERD-HRQL questionnaire and anti-reflux medication use) were evaluated.

Results:

Median follow-up was 2.9 years (2-3.8). Pre-existing hiatal hernia (HH) was frequent (94% NF, 92% no NF). Median operative time (IQR) was 310 min NF vs. 212 min no NF (p<0.01). GERD resolution occurred in 50% of prior NF patients and 71% without prior NF (p=0.24). Percent total body weight loss (%TBWL) was greater for patients without prior NF (26% vs. 18%; p=0.04). (See Table for additional data).

Conclusion:

GD improves GERD symptoms with the added benefit of weight loss. HH recurrence and reoperations are higher after prior ARS. GD should be considered as a primary operation in higher BMI patients with intractable GERD and to salvage patients with failed primary ARS irrespective of BMI.

Table 1: Demographics and outcomes of gastric diversion in patients with and without prior NF.

	Prior Fundoplication (n=17)	No prior Fundoplication (n=26)	p value
Age, median (IQR)	52 (41-63)	60 (49-66)	0.049
Male	3 (18%)	4 (15%)	0.84
Pre-op BMI, mean + SD BMI> 35	36.58 ± 8.63 9 (53%)	38.40 ± 12.8 22 (85%)	0.4 0.02
% TBWL, mean + SD	18.2 + 11.6%	26 + 12.7%	0.04
Early complications (<30 days) i. Major (CD III-V) ii. Minor (CD I-II)	5 (29%) 2 (11%) 3 (18%)	5 (19%) 0 (4%) 5 (19%)	0.43 0.07 0.89
Late complications (>30 days) i. Hiatal hernia ii. Anastomotic stenosis	 4 (24%) 3 (18%)	 0 (0%) 5 (19%)	 <0.01 0.89
GERD resolution as per GERD HRQL (n=31) *	5 (50%)	15 (71%)	0.24
Post-operative medications	7 (41%)	10 (38%)	0.85
Re-interventions i. Reoperation ii. Endoscopy	 9 (53%) 8 (47%)	 3 (12%) 9 (34%)	 <0.01 0.4

IQR=Interquartile Range, SD=Standard Deviation, BMI=Body Mass Index, %TBWL= %Total Body Weight Loss, CD= Clavin-Dindo, GERD-HRQL= Gastroesophageal reflux disease-Health related quality life *GERD resolution= 0 for all questions on GERD HRQL.

O-168

GASTRIC ENDOSCOPIC SLEEVE PLICATION (GESP) FOR TREATMENT OF OBESITY: EFFECTIVENESS ON METABOLIC COMORBIDITIES AT TWO-YEAR FOLLOW UP

Endoscopic and percutaneous interventional procedures

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Background:

Gastric Endoscopy Sleeve Plication (GESP) is a procedure that shortens and narrows the stomach using multiple full thickness plications with a new suture pattern, using the Incisionless Operating Platform (IOP, USGI, Medical, USA), proving to be a reliable option with short-term results and its mid-term effectiveness on metabolic comorbidities associated to obesity is unknown. Bariatric endoscopic techniques have been shown to be effective in improving obesity comorbidities. GESP should be valued as a good therapeutic option for resolution of these comorbidities, especially metabolic diseases.

Objectives:

We evaluated the effectiveness at 2-years of GESP on metabolic comorbidities of patients with obesity undergoing to this endoscopic procedure.

Methods:

This is a 2-years prospective study of 52 patients with obesity (BMI>/=30 Kg/m2) who underwent to GESP as primary treatment for obesity in our unit. All patients were followed, from baseline, at 3-, 6-, 12- and 24 months after procedure to evaluate their metabolic comorbidities (arterial hypertension, dyslipidemia, diabetes mellitus and liver disease) by consecutive measures of blood arterial pressure, blood lipids, glycemia, blood glycosylated hemoglobin and insulin resistant index (HOMA.IR). Fatty liver disease (NASH) and liver fibrosis were assessed by fibro-scan.

Results:

52 patients (67% female and 33% male) with a mean age of 47.58 ± 10.2 years and mean BMI of 36.28 ± 3.42 kg/m2 were follow-up until 24-months after GESP. All metabolic comorbidities including arterial hypertension, dyslipidemia, fatty liver disease and liver fibrosis were statistical significancy improved ($p<0.001$), except for diabetes mellitus ($p=0,687$).

Conclusions:

Our study shows that GESP improve metabolic comorbidities associated to obesity. Endoscopic techniques are safe and cost-effective options for management of obesity and its metabolic complications. More long-term studies are needed.

TABLE 1

Clinical characteristics of the population

	n = 52
Gender	
Male, n (%)	17 (32.69%)
Female, n (%)	35 (67.31%)
Age	47.58 ± 10.22
Weight	102.5 ± 16.51
BMI	36.28 ± 3.42
Excess Weight	32.08 ± 10.75
Comorbidity	
Hypertension	30 (59.69%)
Diabetes mellitus	6 (11.54%)
NASH	37 (71.15%)
Liver Fibrosis:	
Significant Fibrosis (F2-F4)	21 (40.38%)

O-169

GASTRIC ENDOSCOPIC SLEEVE PLICATION (GESP) FOR TREATMENT OF OBESITY: OUTCOMES AT 24 MONTHS FOLLOW UP

Endoscopic and percutaneous interventional procedures

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Background:

Gastric Endoscopy Sleeve Plication (GESP) is a procedure that shortens and narrows the stomach by multiple full thickness plications performing a new suture pattern, using the Incisionless Operating Platform (IOP, USGI, Medical, USA) with g-cath device that have been shown efficacy and security for management of obesity for more than 10 years.

Objectives:

This study assesses the efficacy and safety of GESP for treatment of obesity at 24 months in a bariatric endoscopy unit.

Methods:

A retrospective review of prospectively collected data was made including consecutive patients who underwent to GESP for obesity treatment (BMI>/=30 Kg/m2). All procedures were performed by a single operator using a suture pattern with an average of 18 plications distributed in six rows in the gastric body. Patients were followed for 24 months after procedure. The outcomes to assess efficacy were weight loss (% of total body weight loss, TBWL%, and excess weight loss %, EWL%). The safety was evaluated by Clavien-Dindo Classification event adverse rates.

Results:

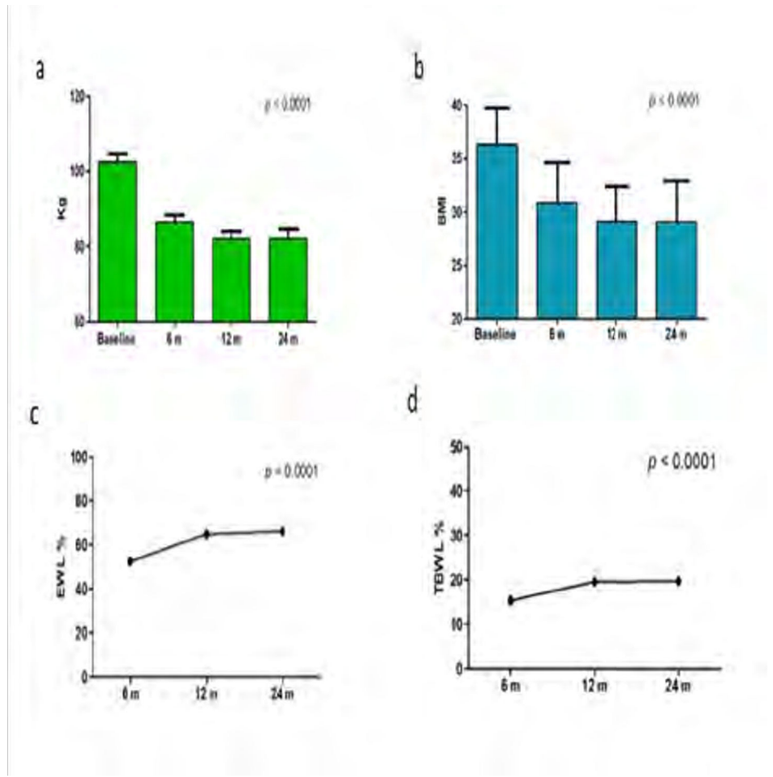
From 82 patients who underwent to GESP, 52 patients (67% female) with a mean age of 47.58 ± 10.2 years and mean BMI of 36.28 ± 3.42 kg/m2 were eligible for having 100% complete rates util 24-months of follow up. At 2 years, mean %TBWL was 19.77% (95% CI, 17.23-22.32, p < 0.0001) and %EWL was 66.17% (95% CI, 58.33-74.01, p < 0.0001). No serious adverse events were reported.

Conclusions:

Our study shows that GESP is an effective and safe procedure for obesity treatment but it is necessary more studies at long-term.

TABLE 1
a. Clinical characteristics of the population

N=52	n (%)
Gender	
Male, n (%)	17 (32.69%)
Female, n (%)	35 (67.31%)
Age	47.58 ± 10.22
Weight	102.5 ± 16.51
BMI	36.28 ± 3.42
Excess Weight	32.08 ± 10.75
a. Comorbidity	
Hypertension	30 (59.69%)
Diabetes mellitus	6 (11.54%)
NASH	37 (71.15%)
Liver Fibrosis:	
Significant Fibrosis (F2-F4)	21 (40.38%)
a. Adverse Events None	0 (0 %)



GRAPHIC 1

a, b) Follow-up at 24 months of weight (Kg) and body mass index (BMI); c, d) Follow up at 24 months of percentages of excess weight loss (EWL%) and total body weight loss (TBWL%).

O-170

GASTRIC FUNCTIONALITY AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY: DOES THE SIZE OF THE GASTRIC TUBE INFLUENCE THE INCIDENCE OF POSTOPERATORY GASTROESOPHAGEAL REFLUX AND GASTRIC EMPTYING? RANDOMIZED PROSPECTIVE STUDY

GERD and bariatric surgery

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Background:

Laparoscopic sleeve gastrectomy (LSG) has enormously grown in popularity as a stand-alone procedure for the treatment of morbid obesity. Technical aspects of this procedure have been progressively established, mostly by empirical observation.

Objectives:

The aim of this study is to offer scientific basis to the lack of evidence on the matter of the antrum size or the bougie diameter and its relation with gastric emptying (GE) and gastroesophageal reflux (GER) and their implication in weight loss outcomes.

Methods:

Randomized control trial was designed to analyze the effect of two factors: bougie size (33 vs 42Fr) and distance between the pylorus and the beginning of sleeve (2cm vs 5cm). Using the two factors, patients diagnosed of severe obesity with indication of LSG were randomized in 4 groups: 1 (33Fr and 2cm); 2 (33Fr and 5cm); 3 (42Fr and 2cm); 4 (42Fr and 5cm).

Gastric emptying scintigraphy, pHmetry and barium swallow test were performed preoperatively, 2 months, and 1 year after surgery in those patients. Parameters were compared to percentage of excess weight loss (%EWL) at 1 year.

Results:

74 patients were included. Females accounted for 75.8% of patients. Mean age was 49.7 years. Mean preoperative BMI was 42 kg/m2. The preoperative %GE mean was 57%±27 in 2cm group and 56%±23 in the 5cm group (p>0.05). At 2 months after LSG the mean %GE was 70%±17 in the 2cm group and 66%±17 in the 5cm group (p>0.05). At 1 year it was 65%±22 and 67%±17 in the 2cm and 5cm groups, respectively (p>0.05). A significant accelerated gastric emptying was observed at 2 months (p=0.03) in the 2cm group. This acceleration is not significant after 1 year without differences between groups.

Pathological postoperative GER (considered as >4% of time the distal channel has a pH<4 in 24h) was observed in 68% of the patients after 1 year. The most important risk factor was the 42Fr bougie size with an OR of 6’5 (p 0.011). The antral size, IMC, sex or preoperative hiatal hernia didn’t show statistical significance as a risk factor for postoperative GER. Differences regarding the %EWL at 1 year between groups were no statistically significant (p=0.8).

Conclusions:

After the LGS we found a global acceleration in the %GE that showed significance in the 2cm group (antrum resection). the first 2 months. We observed a global increase in the incidence of GER, which is higher in the 42Fr bougie group with an OR 6,5.

O-171

GASTRIC PERFORATION FOLLOWING INTRAGASTRIC BALLOON INSERTION: COMBINED ENDOSCOPIC AND LAPAROSCOPIC APPROACH FOR MANAGEMENT: CASE SERIES AND REVIEW OF LITERATURE

Post-operative complications

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Background:

Obesity is a serious disease, with substantial morbidity and mortality. The endoscopic placement of an intragastric balloon (IGB) in association with a low-calorie diet is an option for the treatment of obesity. IGB complications include dislocation of the balloon causing intestinal obstruction, upper gastro-intestinal bleeding and perforation, especially during balloon insertion or removal. Our work aims at decreasing the morbidity of open laparotomy in the management of such gastric perforations.

Methods:

We report three cases of gastric perforation following IGB insertion that needed surgical intervention. Decision was made to treat them with a minimally invasive combined endoscopic and laparoscopic approach to decrease postoperative morbidity.

Results:

All patients were successfully treated by a minimally invasive approach with less morbidity than the conventional open laparotomy.

Conclusions:

Gastric perforation should be suspected in any patient with IGB who presents with an acute abdomen. This can be managed with a minimal invasive approach.

O-172

GASTRIC PLICATION FAILURE: APPROACH AND MANAGEMENT. UPDATE OF CASE SERIES

Revisional surgery

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Background:

Obesity has evolved into a worldwide disease affecting millions of patients irrespective of age. This condition is related to a wide variety of health problems such as diabetes, hypertension, aterosclerotic disease, among others. There is a wide range of methods for managing obesity, ranging from medical to surgical interventions. Even though bariatric surgery is not a one size fits all solution, since its advenment it has become an excellent option for those living with obesity. Gastric plication has been in the surgeon's arsenal for the treatment of obesity since the 90s. Even though its low cost is very appealing, the high need of re-intervention and complications (70% according to literature) have led to controversy surrounding the use of gastric plication.

Objectives:

Describe the characteristics, experience and outcomes of patients with history of gastric fundoplication that required reintervention between 2003 and 2020 in our institution.

Methods:

A retrospective observational study with a prospective database was conducted. Patients with complications secondary to a previous gastric fundoplication were included. Revision to laparoscopic sleeve gastrectomy was performed. Baseline data and evolution were obtained and analyzed. Surgical analysis included revision cause, perioperative outcome, surgery, complications, and weight loss. Post operative follow up was done for a 12-month period in all patients.

Results:

Nine people required revisional surgery. Mean age of the patients was 39.6 years, 55.5% were men and 44.4% were women. In the first consultation the main concerns were weight regain (77.8%), and abdominal pain (50%). 44% of the patients reported dyspepsia and 33% had symptoms related to nausea and emesis. The mean body mass index in the group was 30.87 kg/m² before reintervention, 27.97 kg/m² 6 months after surgery and 24 kg/m² 1 year after surgery. All the patients had abdominal adhesions as intraoperative findings, 45% had severe inflammation and 1 had a gastroesophageal fistula.

Conclusions:

In our series, gastric plication failure was mainly associated with abdominal pain. Revisional surgery proved to be a safe and effective alternative for management of complications after this procedure.

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O-173

GASTRIC PRESSURE MEASURE PERFORMED DURING PRE OP MOTILITY TESTING AND ITS ROLE IN THE DEVELOPMENT OF GASTROESOPHAGEAL REFLUX

Endoscopic and percutaneous interventional procedures

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Introduction:

Gastroesophageal reflux is an entity due to multiple factors modifying esophageal physiology and lower esophageal sphincter (LES) as hiatal hernia, achalasia or previous foregut or bariatric surgery.
Basal Gastric Pressure (BGP) and Post-Swallow Gastric Pressure (PSGP) are both valuable tools in order to understand reflux through gate mechanism between of the LES and stomach because of differential pressure gradient. Basal Gastric Pressure is low in general population but in post op gastric sleeve patients there is an abnormal and high value of this measure.

Objectives:

Determine the mean value of the gastric pressure of patients in a digestive motility evaluation assessment.
Determine the mean gastric pressure before and after gastric sleeve surgery.

Methods:

Retrospective review of prospectively collected database of motility testing results. During manometric study Basal Gastric Pressure was measured introducing the probe 5 cm below the LES before and after 200 cc water swallowing. The general data is about 496 patients, 216 were pre op of bariatric surgery (gastric sleeve) and 71 post operatively.

Results:

Gastric pressure mean is 10.4 ± 8.1 mmHg (n=496). Therefore, values above 20mmHg were considered abnormal, and the mean increases to 53.20 ± 106, 668 mmHg (n=496) after swallow of 200 ml. In gastric sleeve patients during pre op, (n=216) the BGP was 9 ± 5,5 mmHg and PSGP was 26 ± 37 mmHg, both values increased during post op to 18 ± 11 mmHg and 137 ± 149 mmHg respectively. Maximum value of PSGP was 700mmHg. In the analysis of patients with pre- and post-operative records (n=71) patients with BGP of >20 mmHg increased from 1% to 35%, and in patients with PSGP of >20mmHg increased from 28% to 83%. (Table 1)

Conclusion:

Gastric pressure is an essential element during the evaluation of patients who are candidates for surgery because it alters the gastroesophageal junction. Gastric pressure can be significantly elevated in bariatric surgery patients and is necessary to understand the alterations of the gastroesophageal junction because a pathologic gradient between gastric pressure being higher than the distal esophageal pressure or esophageal sphincter causes reflux.

FIGURE 1. Gastric Pressure values Pre & Post Sleeve Gastrectomy.

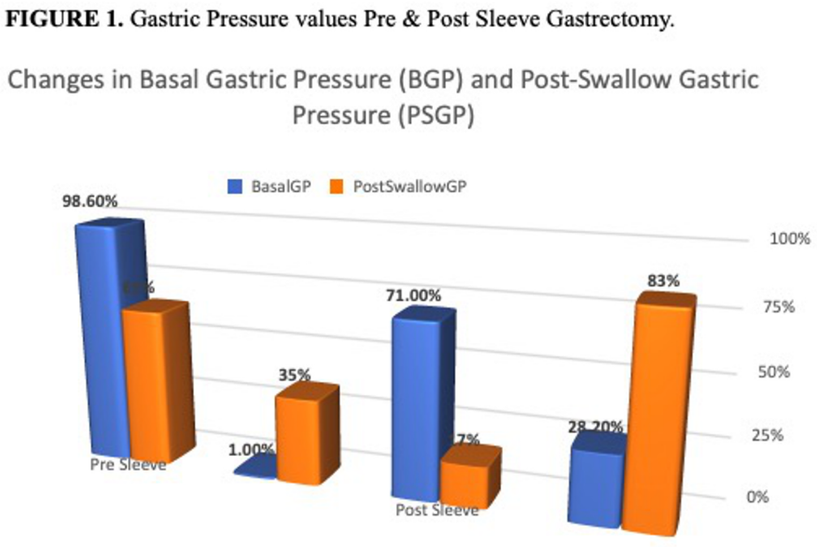

TABLE 1. Gastric Pressure Groups (n = 71)

	Pre Sleeve		Post Sleeve	
Pressure	0 – 20 mmHg	> 20 mmHg	0 - 20 mmHg	> 20 mmHg
BGP	98.60%	**1%**	71%	**28.2%%**
PSGP	71.80%	**28.20%**	16.90%	**83.10%**

O-174

GASTRIC REMNANT PERFORATION CAUSED BY PETERSON'S HERNIA FOLLOWING ONE ANASTOMOSIS GASTRIC BYPASS: A RARE COMPLICATION

Endoscopic and percutaneous interventional procedures

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Introduction:

One Anastomosis Gastric Bypass (OAGB) has gained popularity over the recent years; it appears to be an effective bariatric procedure with acceptable weight loss, co-morbidity resolution, and complication rates in the short and medium term. However, it still continues to have concerns in the bariatric community due to a spectrum of potential complications. To our knowledge, there exist no published reports of gastric remnant perforation following OAGB.

Case Presentation:

We report a case of a thirty-two-year-old female who developed a perforation of the remnant stomach along the gastric fundus secondary to bowel obstruction five years after OAGB. The perforation was managed by stapled resection of the perforated fundus and closure of Peterson's space for potential hernia as a causative factor and the patient had a smooth postoperative recovery.

Discussion:

Early diagnosis is crucial in post bariatric emergencies with a low threshold of early intervention. Gastric remnant perforation was previously described in some reports following Roux-En-Y-Gastric Bypass (RYGB) but not after OAGB. Etiology of perforation can be rationalized to primary gastric remnant pathology or secondary to external factors such as back pressure of mechanical/ functional bowel obstruction.

Conclusion:

Gastric remnant perforation is a rare, yet serious, complication that needs to be kept in mind while dealing with post-OAGB patients presenting with abdominal pain. Early diagnosis and treatment are essential for a better outcome.

O-175

GASTRO-OESOPHAGEAL REFLUX DISEASE AND OESOPHAGITIS FOLLOWING LAPAROSCOPIC SLEEVE GASTRECTOMY AND LAPAROSCOPIC GASTRIC BYPASS

GERD and bariatric surgery

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[1]University College Cork, Cork, Ireland; [2]Bon Secours Hospital, Cork, Ireland.

Introduction:

Routine diagnostic endoscopy in either a pre-operative or post-operative bariatric surgical setting is controversial.

Objectives:

To evaluate the utility of routine gastroscopy performed pre- and post- bariatric surgical intervention
Methods: Between June 2008 and June 2018, 260 patients undergoing primary bariatric surgery underwent routine pre-operative and post-operative endoscopy.

Results:

78%(204) were female. The mean (SD) age was 46(11) years. The mean preoperative BMI was 49(7)kg/m2. 73%(191) underwent laparoscopic gastric bypass (LRYGB) and 26%(69) underwent sleeve gastrectomy (LSG). The median (range) time to post-operative endoscopy was 26(12-91) months. The median BMI on follow-up was 33(11) kg/m2. Endoscopic findings of oesophagitis resulted in 11(14%) patients changing preference from LSG to LRYGB pre-operatively. As a consequence, oesophagitis was present in a greater number of LRYGB patients pre-operatively (38(20%) vs 9(13%), p<0.0001). However, post-operatively the incidence of oesophagitis was significantly lower for LRYGB (5(2.6%) vs 12(17%), p<0.001).

By the time of post-operative endoscopy there was a greater reduction in the number of patients taking medication for GORD in the LRYGB group (49% (50/103) vs 9%(3/31), p<0.001).

LSG was associated with a higher incidence of DE NOVO post-operative GORD requiring medication (10(14%) v 13(7%), p<0.001) and DE NOVO oesophagitis (10(14%) v 3(1.5%), p<0.001).

Barrett's oesophagus was present in 10(3.8%) patients pre-operatively. Post-LRYGB 1(10%) had resolved, 3(30%) had improved, 2(20%) had progressed. The four patients in the LSG group remained stable.

Conclusion:

Gastric bypass is associated with resolution of GORD symptomatology and endoscopically diagnosed oesophagitis in the majority of patients. This is not the case for LSG. De Novo GORD requiring medical intervention and oesophagitis occurs in both groups - but is more common following LSG. The behaviour of Barrett's oesophagus is unpredictable. However, there was no new diagnosis of Barrett's on follow-up endoscopy.

O-176

GASTROESOPHAGEAL REFLUX AFTER BARIATRIC SURGERY: CLINICAL-ENDOSCOPIC, MID-LONG-TERM EVALUATION AFTER GASTRIC BANDING, R-Y GASTRIC BY-PASS, SLEEVE GASTRECTOMY AND ONE ANASTOMOSIS GASTRIC BY-PASS

GERD and bariatric surgery

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Background:

The rapid expansion of bariatric surgery highlighted necessity of management of new problems increasing over the years. Gastro-Esophageal (GE) reflux after bariatric surgery is currently a topic of great interest in the scientific community worldwide as it would be responsible for possible complications.

Objectives:

The aim of this study is to compare the incidence of GE Reflux Disease (GERD) based on clinical and endoscopic data, in patients (pts) undergoing Laparoscopic Adjustable Gastric Banding (LAGB), Roux-en-Y Gastric By-pass (RYGB), Laparoscopic Sleeve Gastrectomy (LSG) and One Anastomosis Gastric By-pass (OAGB).

Methods:

From January 2006 to December 2010 382 pts underwent LAGB, RYGB and LSG, with an average follow-up of 10 years, and from 2015 to 2018 116 pts underwent OAGB, with an average follow-up of 3 years. Pts underwent clinical evaluation of GERD symptoms (VAS score), BMI reduction, complications and re-do surgery rates, and EGD with biopsies.

Results:

241 pts accepted to take part in the study (49.8%). Incidence of GERD symptoms significantly increased in LAGB and LSG pts, compared to preoperative symptoms (14% VS 31,6% and 26,3% VS 58,9% $p<0.0001$), while significantly reduced in RYGB pts (36,6% VS 14,6% $p<0.0001$); a non-significantly increase was registered in OAGB pts. At EGD, incidence of esophagitis significantly increased in LSG pts (75%), compared to pre-operative esophagitis and to pts undergoing other surgeries ($p<0.0001$); 16 new cases of Barrett's Esophagus (17%) were found in LSG pts. Biliary-like esophageal reflux was found in 76% and in 12.5% of LSG and OAGB pts, respectively; no esophageal reflux was found in other groups. Marginal ulcers occurred in 14,6% (6 pts) of RYGB pts compared to 10,4% (5 pts) of OAGB pts. Only in one OAGB patient (2,08 %) occurred a marginal ulcer's perforation. A significant BMI reduction with benefic effects on comorbidities was observed in RYGB, LSG and OAGB pts VS LAGB ($p<0.0001$). Re-do surgery were performed only in LAGB, LSG and OAGB pts.

Conclusion:

LAGB shows poor long-term results and high rates of re-do surgery. LSG induces higher rate of complications related to GE reflux, compared to RYGB, which is the best procedure in cases of re-do due to GERD. Results observed in OAGB pts encourage further studies in order to evaluate its safety and efficacy. Because of possible long-term complications, performing a very close follow-up is mandatory.

O-177

GASTROINTESTINAL QUALITY OF LIFE IN MORBIDLY OBESE PATIENTS UNDERGOING ONE ANASTOMOSIS GASTRIC BYPASS: DERIVATION OF A "MINI GIQLI" SCORE

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

One Anastomosis Gastric Bypass (OAGB) is now one of the mainstream bariatric surgical procedures with proven safety and efficacy. However, data on the gastrointestinal quality of life following OAGB is lacking.

Methods:

This is a retrospective analysis of a prospectively collected database, performed at a single tertiary care teaching hospital from January 2016 until March 2021. All patients undertook the Gastrointestinal quality of life index (GIQLI) questionnaire. GIQLI was correlated with various parameters. Principal component analysis (PCA) was used to assess the importance of each question in the questionnaire and devise a "Mini GIQLI score".

Results:

A total of 60 patients were included. The %TWL at 3 and 5 years was 26.2±11.9%, 31.7±11 respectively. The mean weight regain was 5.6±8.5 kg. The mean GIQLI score was 125±13.1. The mean scores for questions pertaining to gastrointestinal, social, psychological, and physical domains were 3.49, 3.7, 3.45, and 3.27 respectively. Scree plot of principal component analysis showed that a new score ("Mini GIQLI") combining only 5 questions had good correlation with the overall GIQOL score ($r = 0.842$). The five questions related to anxiety, fatigue, feeling unwell, loss of endurance, and feeling unfit.

Conclusion:

Patients report a good score on GIQLI assessment following OAGB. The Mini GIQLI score is a quicker tool with good correlation to the full length GIQLI score.

O-178

GASTROINTESTINAL QUALITY OF LIFE IS IMPROVED SHORT- AND LONG-TERM AFTER ROUX-EN-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Overall quality of life (QoL) is generally improved after bariatric surgery. Gastrointestinal (GI) symptoms including abdominal pain have been reported in up to >30% of patients after Roux-en-Y gastric bypass (RYGB), and may negatively influence QoL, especially GI-QoL.

Objective:

To evaluate the evolution of GI symptoms and GI-QoL short- and long-term after RYGB.

Setting:

Two public hospitals in Switzerland

Methods:

Candidates for bariatric surgery or patients who had undergone RYGB 2-4 years and 5-10 years before were invited to complete a questionnaire comprising questions from three validated questionnaires (GIQLI, GSRS and PCS) specifically designed to evaluate GI-QoL. Scores were compared between the preoperative, early, and late postoperative periods.

Results:

The GIQLI score improved from 88,1 (IQR=28,5) before surgery to 118,6 (IQR=16) and 109,7 (IQR=25) in the early and late postoperative periods respectively, and the GI sub-score of the GIQLI improved from 57,4 (IQR=15,5) to 62,1 (IQR=11) and 59,4 (IQR=11). GSRS score improved from 15,6 (IQR=10) to 10,1 (IQR=10) and 12,8 (IQR=9), and PCS score improved from 19 (IQR=24) to 4,5 (IQR=4) and 8,3 (IQR=16) respectively. The psychological impact of GI symptoms decreased at both postoperative time points. These changes were significant, except for the GI sub-score of the GIQLI which was unchanged after 5-10 years compared with before surgery.

Conclusions:

GI-QoL is markedly improved after RYGB, and this improvement persists up to 10 years. GI symptoms symptoms decrease early after surgery and do not worsen in the longer term. Their psychological impact is markedly reduced.

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O-179

GOOD CLINICAL PRACTICES ON APC TREATMENT FOR WEIGHT REGAIN FOLLOWING ROUX-EN-Y GASTRIC BYPASS: A BRAZILIAN MODIFIED DELPHI CONSENSUS

Management of weight regain after surgery

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Introduction:

Several studies have consistently shown that argon plasma coagulation (APC) alone is effective and safe at treating weight regain following Roux-en-Y Gastric Bypass (RYGB). However, technical details of the treatment vary widely among studies.

Objectives:

We aimed to create good clinical practice guidelines through a modified Delphi consensus, including experts from the collaborative Bariatric Endoscopy Brazilian group.

Methods:

Forty-one endoscopists with supposedly >150 APC-treated patients were invited to the Consensus by email. An initial questionnaire with short-answer questions was distributed to the experts. The organizing committee converted the responses into statements for an online 2-day voting webinar. The level of agreement was assessed through a 5-point Likert scale (completely disagree; disagree; neutral; agree; completely agree). Consensus was defined as more than 67% of positive answers (either agree or completely agree). Three consecutive voting rounds were planned with discussion and statement refinements between rounds.

Results:

Thirty-seven experts fulfilled eligibility criteria and attended the live webinar voting. The total number of patients treated by the panel was 12,349. By the third round, all 79 statements reached consensus. Among others, the recommendations include: dietitian and bariatric endoscopist as essential professionals and psychologist as suggested in the multidisciplinary team; the definition of dilated gastrojejunal anastomosis as ≥15mm; minimum regain of 20% of the lost weight to indicate the APC therapy; 6 to 8 weeks as the ideal interval between ablation sessions, and stopping treatment when the stoma reaches <12mm of breadth. Table 1 outlines all consensual statements.

Conclusions:

This consensus provides several recommendations based on a highly experienced panel of endoscopists. Although it covers most aspects of the treatment, the level of evidence is low for the majority of the statements. Therefore, bariatric endoscopists should be constantly attentive to new evidence on APC treatment.

Statements	Level of agreement	Grade of recommendation [21]
Required qualification		
Local regulatory certification for performing endoscopy is required	100%	D
Theoretical and practical hands-on courses is the minimum training required	100%	D
Multidisciplinary team		
A dietitian is required in the multidisciplinary team	97%	A
A bariatric endoscopist is required for evaluation and follow-up	100%	A (extreme plausibility)
A psychologist is recommended in the multidisciplinary team	97%	C
The endocrinologist is not required in the multidisciplinary team	91%	D
A physician nutrition specialist is not required in the multidisciplinary team	100%	D
A psychiatrist is not required in the multidisciplinary team	98%	D
A bariatric surgeon is not required in the multidisciplinary team	77%	D
A physical educator is not required in the multidisciplinary team	100%	D
Preprocedural workup		
An upper diagnostic endoscopy is required before APC treatment, but it may be performed as a same-session procedure	100%	B
For patients with weight regain undergoing an upper diagnostic endoscopy, the report should provide the measures of pouch and stoma but not suggest APC treatment	97%	D
An upper GI series is not necessary	100%	D
Abdominal ultrasound or abdominal computed tomography is not necessary	97%	D
A coagulation profile is required to perform APC treatment	83%	D
General lab tests (full blood count, electrolytes, renal panel) are required before APC treatment	85%	D
Gastric scintigraphy is not necessary	100%	D

Indications and Contraindications		
Standard indications and definitions		
There is no minimum age for indication	83%	D
There is no maximum age for indication	94%	D
Dilated GJA is defined as diameter ≥15mm	89%	B
The assessment of the anastomotic diameter requires the employment of an objective parameter (endoscopic ruler or foreign body forceps)	94%	B
A dilated stoma is a criterium for indication	97%	A
Weight regain ≥ 20% of the lost weight is a criterium for indication	98%	B
Time from surgery ≥ 18 months a criterium for indication	77%	C
Successfully attending the multidisciplinary visits is a criterium for indication	89%	D
Clinical complaints of delayed satiation or short-term satiety are criteria for indication	89%	D
The presence of co-morbid conditions (hypertension or diabetes) is not a necessary criterium for indication	94%	D
Absolute contraindications		
GJA diameter <10mm is an absolute contraindication	100%	A
GJA diameter <12mm is an absolute contraindication	92%	D
Current use of anticoagulation drugs not amenable to withholding is an absolute contraindication	86%	D
Severe erosive esophagitis (Los Angeles grades C and D) is an absolute contraindication	73%	D
Active anastomotic and marginal ulcers are absolute contraindications	100%	D
Uncontrolled psychiatric disorders are absolute contraindications	86%	D
The presence of a gastro-gastric fistula is an absolute contraindication for anastomotic APC ablation	80%	D
Severe anemia (Hb<8g/dL) is an absolute contraindication	88%	D
Dysplastic Barrett's esophagus is an absolute contraindication	82%	D
Untreated AIDS is an absolute contraindication	97%	D
Pregnancy is an absolute contraindication	100%	D

Relative contraindications		
Gastric pouch <2cm is a relative contraindication	95%	D
Coagulopathy is a relative contraindication	98%	D
Migrated sylastic ring is a relative contraindication	86%	D
Intact normal sylastic ring (diameter <15mm) is a relative contraindication	78%	C
Chronic use of non-steroidal anti-inflammatory drugs is a relative contraindication	91%	D
Not contraindications		
Dilated sylastic ring (diameter ≥ 15mm) is not a contraindication	95%	D
Gastritis is not a contraindication	97%	D
Mild erosive esophagitis (Los Angeles grades A and B) is not a contraindication	97%	D
Long gastric pouch (>7cm) is not a contraindication	97%	C
Wide gastric pouch (>5cm) is not a contraindication	92%	C
Non-dysplastic Barrett's esophagus is not a contraindication	92%	D
Positive serology for HIV is not a contraindication	100%	D
Treated AIDS is not a contraindication	94%	D
Off-label indications		
Insufficient weight loss associated with a dilated stoma is an off-label indication	94%	D
APC treatment for optimization of weight loss before completing 18 postoperative months is an off-label indication	88%	D
Struggle to maintain weight or progressive weight regain associated with a dilated stoma is an off-label indication	97%	D
Dumping syndrome is an off-label indication	94%	C
Equipment and settings		
The minimum required setting is an endoscopy clinic with advanced life support equipment and a well-established referral protocol	94%	D
Any kind of scope is suitable for APC treatment	95%	D
Routine CO2 insufflation is recommended	80%	D
For Covidien (WEM, Covidien, Medtronic, Ribeirão Preto, Brazil) electrosurgical units, the suggested setting is Power = 70-80 Watts and Flow= 2L	100%	D
For ERBE (Erbe Elektromedizin GmbH, Tuebingen, Germany) electrosurgical units, the suggested setting is Power= 45-60 Watts and Flow= 1-2L	88%	D
Patient preparation		
Eight hours fasting is recommended before the APC ablation	91%	A
Routine preprocedural PPI is not recommended	85%	D
Technique		
The procedure may be performed under monitored anesthetic care	100%	B
An accompanying anesthesiologist is recommended	86%	D
Circumferential ablation is the standard approach	100%	A
Intraprocedural gas exchange is recommended	98%	D
Cessation of ablations is recommended when stoma size < 12mm (Figure 4)	94%	C
The proximal extension of the ablation is 1-2cm	100%	B
Antispasmodic drugs are recommended if peristalsis creates technical difficulties	100%	D
Cardinal preprocedural marking is not routinely recommended	86%	D
Postprocedural care		
Liquid diet is recommended for at least two weeks	88%	D
Sucralfate and full-dose PPIs are routinely recommended	83%	D
Painkillers and antispasmodic drugs are only recommended if pain or cramps	100%	D
The recommended interval between ablation sessions is 6-8 weeks	100%	B
Management of adverse events		
Endoscopic dilation is indicated only if consistent clinical presentation (refractory nausea and vomiting) AND stoma size < 10mm	97%	D
Balloon dilation to 10-12mm is the primary therapeutic approach to post-APC strictures	97%	D
Refractory stricture is defined as symptoms and stricture persistence after 3 balloon dilation sessions (from 10-15mm)	100%	D
The primary approach to refractory strictures is endoscopic stricturotomy	92%	D

O-180

HAND SEWN ANTI-REFLUX ONE ANASTOMOSIS GASTRIC BYPASS, A NOVEL TECHNIQUE

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Many studies have reported the advantages of OAGB/MGB over other bariatric procedures, such as shorter operative time, lower risk of anastomotic leakage. Despite that, there are still concerns about the risk for biliary reflux gastritis, esophagitis and esophageal cancer after OAGB/MGB. The anastomosis during OAGB/MGB can be performed using hand sewn stitches or a linear staplers. There is currently a knowledge gap regarding the outcomes for different anastomosis techniques in OAGB/MGB.

Objective:

We proposed a new technique for performing the anastomosis in OAGB/MGB (a totally hand sewn anastomosis creating a double mucosal intra luminal flap). This technique has the potential to minimize biliary reflux and its consequences. This study was done to evaluate the feasibility, safety and efficacy of this new technique.

Methods:

Our study was a prospective interventional study performed at Ain Shams University hospitals between January 2017 and February 2020. Included patients underwent OAGB utilizing our new technique. Patients were regularly followed up at 1, 6 and 12 months after discharge. At each visit the EWL% together with subjective symptoms of GERD using the GERD-Health Related Quality of Life (GERD-HRQL) score, were recorded. Patients were evaluated with an upper gastrointestinal endoscopy after 1 year.

Results:

46 patients were enrolled in the study. All cases were completed laparoscopically utilizing our new technique. The mean operative time was 65±23 minutes with no cases of conversion. 2 cases had early postoperative chest infection which was treated medically and 1 patient had a none symptomatic port site hernia after 10 months, which was treated by elective repair. No major postoperative complications or mortality was recorded during the follow-up period. After one year, the mean EWL% was 78±14%, and the mean GERD-HRQL score decreased from 24±6 preoperatively to 12±6. Endoscopy Findings after one year revealed improvement of esophagitis in 10 out of 12 patients. No cases of de novo esophagitis, nor significant bile pooling at gastric pouch were detected during endoscopy after 1 year. Significant improvement of obesity related comorbidities was seen in our study.

Conclusion:

Our new hand-sewn OAGB/MGB technique, is a feasible and safe technique with results comparable to the stapled technique. The anti-reflux, double mucosal valve may minimize possible future bile reflux and its consequences.

O-181

HIATAL SLING TECHNIQUE OF LIVER RETRACTION DURING BARIATRIC SURGERY - 12 YEAR EXPERIENCE

Long term results (> 10 years)

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Background:

The main aspect of concern for upper GI procedures has been the retraction of the liver especially large left lobes as commonly encountered in Bariatric surgery. During bariatric surgery in morbidly obese patients, the surgeon's operative view is often obscured by the hypertrophic fatty left lobe of the liver. The use of a conventional liver retractor mandates an additional subxiphoid port/ wound, resulting in pain and scar formation, in addition to the risk of iatrogenic liver injury during retractor insertion. To overcome these limitations, we developed a simple, rapid, and safe technique for liver retraction – Hiatal sling technique

Methods:

A retrospective study of hiatal sling technique and a subsequent analysis was made based on advantages and disadvantages of our method. From Oct 2009 to January 2020 total 1850 patients underwent both laparoscopic and single incision (SILS) Bariatric surgery with hiatal sling liver retraction.

Results:

The mean time required to complete the liver retraction was 6 min 21 s (range, 4.6-8.9 min). Retraction was appropriate in all patients, with only 8 patients (0.4%) needing additional retractors or conversion. There were no Hiatal sling-related perioperative or post-operative complications.

Conclusions:

Hiatal sling liver retraction technique are cost effective and easy to learn. We recommend using these technique sto have a good exposure of hiatus, without compromising the safety of surgery in both laparoscopic and single incision surgery. Inertness of this technique helps to reduce addition port for liver traction.

O-182

HIPEROXALURIA EN PACIENTES OBESOS: FACTOR PROLITOGÉNICO FRECUENTE PREVIO A LA CIRUGÍA BARIÁTRICA

Integrated health

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Introducción:

La hiperoxaluria (Hox) es un factor de riesgo para litiasis renal y nefrocalcinosis. Existe una correlación positiva entre el peso y el área corporal con la excreción urinaria de oxalato. Las principales causas de Hox son: aumento de la ingesta de oxalato, incremento de su absorción intestinal y aumento de la síntesis hepática. En obesos mórbidos los mecanismos que generan Hox no están completamente dilucidados. El tratamiento de la obesidad con orlistat, o cirugía bariátrica particularmente el by-pass gástrico en Y de Roux (BPGYR), producen un aumento la absorción intestinal de oxalato, incrementando la excreción de oxalato por la orina, generando litiasis renal y riesgo de nefropatía por oxalatos.

Objetivos:

Evaluar la prevalencia de hiperoxaluria en pacientes obesos durante la valoración pre operatoria de cirugía bariátrica(CB).

Métodos:

Estudio descriptivo, transversal, realizado en una cohorte de pacientes obesos, del "Programa de Obesidad y CB del Hospital Maciel", Montevideo-Uruguay. Se reclutaron pacientes en valoración pre operatoria desde febrero de 2019 hasta marzo de 2020. Se excluyeron pacientes con enfermedad renal crónica (ERC) y con recolección de orina incompleta (ROI),volumen urinario ≤ 1000 cm3. Se consideró hiperoxaluria ≥ 44 mg/día en hombres y ≥ 31 mg/día en mujeres. La investigación fue financiada por FOINE (Fondo de Investigación en Nefrología). El estudio fue aprobado por el Comité de Ética del Hospital.

Resultados:

De los 81 pacientes, se excluyeron 3 por ERC y 12 por ROI. Se validó el estudio litogénico de 66 participantes, 63,6% (42) presentaron hiperoxaluria. El 83% fueron mujeres, la media de edad fue 45,1 ± 11,4 años y el IMC de 48,8 ± 8,4 kg/m². El 21,4% (9) tenían antecedentes familiares de litiasis, y el 38% (16) antecedentes personales. Todos estaban asintomáticos al reclutarse. La mediana de oxaluria fue de 46 (p25 39 - p75 63) en mujeres, y de 87,2mg/día (p25 51 – p75 114) en hombres. Un 10,1% (7) de los pacientes presentaron oxalurias mayores a 75 mg/día, siendo el máximo 139,6 mg/día. El 26,7% (12) asoció hipercalciuria.

Conclusiones:

La hiperoxaluria es frecuente en obesos, encontrándose valores que justifican el estudio de hiperoxaluria primaria. Se fundamenta la realización del estudio litogénico renal en busca de hiperoxaluria durante la valoración pre operatoria de cirugía bariátrica, independientemente de los síntomas. La hiperoxaluria debe considerarse en el momento de decidir.

O-183

HISTOPATHOLOGICAL FINDINGS IN STOMACH REMOVED IN GASTRIC SLEEVE

Basic science and research in bariatric surgery

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Introduction:

Stomach cancers tend to develop slowly over many years. Before it manifests, precancerous changes often occur in the lining of the stomach. These early changes almost never cause symptoms; therefore they go undetected.

Objectives:

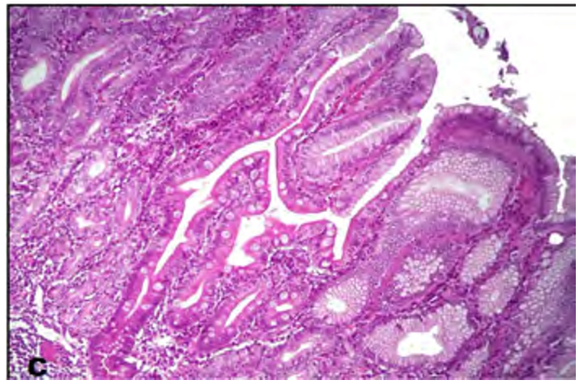
demonstrate the importance of the histopathological study of the stomach remnant after gastric sleeve to timely identify precancerous lesions or incidental tumors.

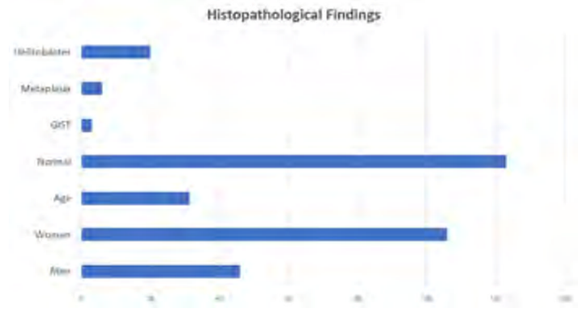
Methods:

152 histopathological studies were performed at portion of stomach removed from gastric sleeve patients. All operated by the same Surgery, analyzed by the same pathologist and with normal upper gastrointestinal endoscopy.

Conclusions:

Although more than 80% of samples were normal, 19.2% presented premalignant lesions such as intestinal metaplasia and helicobacter pylori infection. That is why it`s important to analyze any type of tissue that is routinely removed from the body





O-184

HOW DO BARIATRIC METABOLIC SURGEONS IN GREECE INTEGRATE STANDARDIZATION OF VARIOUS PROCEDURES IN THEIR PRACTICE

Basic science and research in bariatric surgery

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Background:

Metabolic bariatric surgery (MBS) spearheads surgical innovation, with new techniques emerging constantly and established ones having accumulated considerable experience over the years. Consensus statements serve as guides for surgeons, but individual practices may vary.

Methods:

This was a nationwide anonymous electronic survey sent to 36 bariatric surgeons all over Greece. The questionnaire consisted of 27 multiple-choice questions organized in four chapters: Demographics (Q1-9); Sleeve Gastrectomy (Q10-14, SG); Roux-en-Y Gastric Bypass (Q15-22, RYGB); One-Anastomosis/Mini Gastric Bypass (Q23-27, OA/MBG).

Results:

There were 18 respondents (response rate 50%), of whom 17 male (94%). Half had been practicing >10 years, whereas 33% came from public hospitals and 50% from private ones. Thirty-nine percent had a 21-50 patient annual caseload and 28% had >100. The most popular operation was SG (72%), followed by OA/MBG (17%) and RYGB (6%). Most participants perform revision MBS (94%), but all have <20 cases annually. Regarding SG, 89% keep 1-2cm from the esophagogastric junction (EGJ), 61% use a 32-36Fr bougie, 56% keep 2-3cm distance from the pylorus and 56% do not reinforce the staple line. Half of the participants had never performed any sleeve-plus procedure. Concerning RYGB, 53% keep a distance of 1-2cm from the EGJ, 59% create a 3-4cm gastric pouch, 41% create a 50-100 cm Roux limb (and another 41% a 101-150 Roux limb) and 56% create a 50-100cm biliopancreatic limb (BPL). Only half create a gastroenteroanastomosis (GEA) <2cm and 82% do so with a linear stapler. No one performs banded bypass. As of OA/MGB, 53% keep a 1-1.5cm distance from EGJ, whereas 71% create a pouch 2.5-3cm wide and 65% 12-19cm long. Sixty percent create a fixed-size BPL, 27% tailor BPL size to BMI and 13% create a 300cm gastrocecal limb. Finally, 41% create a GEA <3cm, whereas 47% prefer 3-4cm GEA width.

Conclusions:

To our knowledge, this is the first research depicting the situation of MBS in Greece. Despite the relatively small sample size, the survey had a 100% completion rate. Importantly, there is significant underrepresentation of women in the Greek bariatric community. Operation preference follows international trends. Most practitioners follow the international guidelines on technique, but significant divergence was documented individually. As such, the establishment of national consensus guidelines is mandatory.

O-185

HOW MUCH NARCOTICS ARE REALLY NEEDED AFTER BARIATRIC SURGERY: RESULTS OF A PROSPECTIVE STUDY

Enhanced recovery in bariatric surgery

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Background:

The opioid epidemic remains a fatal public health burden. In an effort to mitigate this crisis, physicians are re-evaluating opioid prescribing patterns.

Objectives:

Our focus was to evaluate outcomes of maximal opioid reduction on top of an existing Enhanced Recovery after Surgery (ERAS) pathway in our academic and MBSAQIP-accredited bariatric surgery program.

Methods:

This is a retrospective review of a prospectively maintained database from July 2017 to February 2021 of patients undergoing an initial metabolic operation. The first cohort from July 2017 to April 2019, underwent a standard ERAS protocol, and from April 2019 to February 2021, patients underwent ERAS as well as Sparing Opioid Use Postoperatively (SOUP) protocol. The primary endpoint was reduction of opioid use in the perioperative period, and secondary outcomes included patient satisfaction score, length of stay, complications, and readmissions.

Results:

There were 212 patients in the ERAS cohort, and 155 patients in the SOUP cohort. Both cohorts were similar in age, body mass index, proportion female, laparoscopic approach, and operative duration. The proportion of Roux-en-Y gastric bypass procedures in the ERAS and SOUP cohorts was 48.6% (n=103) and 54.2% (n=84) and of sleeve gastrectomy was 51.4% (n=109) vs 45.8% (n=71), respectively.

The SOUP cohort of patients required a low inpatient morphine equivalent dose (MED) of 5.51mg (SD ± 6.91). The ERAS cohort was discharged on a much higher MED than the SOUP cohort (189.4 mg ± 90.78 vs 53.6mg ± 90.27, P < 0.001), and average consumption of the standard 5mg oxycodone tablets was 2.3 tablets (SD ± 2.4; n=133). SOUP patients rated their pain satisfaction score on a scale of 1 (extremely dissatisfied) to 10 (extremely satisfied) at 9.1 points (SD± 1.8). Length of stay was significantly reduced in the SOUP cohort (1.7 ± 0.8 vs 1.5 ± 0.8, P < 0.01) with an increased use of non-opioid medication in the postoperative period (93.9% [n=199] vs 98.0% [n=151]). 30-day intensive care unit admissions, readmissions, mortality, and interventions were low and similar between the two groups.

Conclusion:

An opioid-sparing protocol can be implemented after metabolic surgery with high overall satisfaction with pain control. In an era where patient outcomes after metabolic surgery are already excellent, there continues to be a need for reduced postoperative opioid use to keep our patients and communities safe.

O-186

HOW THE COVID-19 PANDEMIC AFFECTED THE CASELOAD OF BARIATRIC SURGERY IN COMPARISON TO OTHER OPERATIONS – DATA FROM A SURGICAL DEPARTMENT IN A HIGH-VOLUME TERTIARY HOSPITAL IN GREECE.

Registries and quality in bariatric surgery

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Introduction:

One of the side-effects of the Covid pandemic is the compelling cutbacks in what is supposed to be “elective” operations. Bariatric operations are considered elective, as such they have been drastically limited.

Methods:

We collected data on the operations undertaken in our Department during the COVID-19 pandemic. We categorized operations into bariatric, oncologic, and miscellaneous. We separated the study period into 3 phases: i) beginning of 1st lockdown (13th March)–end of 1st lockdown (4th May); ii) end of 1st lockdown–beginning of 2nd lockdown (7th November); iii) beginning of 2nd lockdown–end of year. We implemented 2-tailed Fisher’s test to make comparisons between operations.

Results:

During the 1st phase, we performed 2 bariatric (mean BMI 51.1, 0% females, mean age 26), 25 oncologic (24% females, mean age 67.2), and 53 miscellaneous operations (37.7% females). There were no complications in the bariatric group, 1 Clavien-Dindo (CD) grade IV complication and 2 deaths in the oncologic cohort, while the respective figures for the rest was 3 CD grade IV and 7 deaths. During the 2nd phase, we recorded 16 bariatric (mean BMI 47.2, 37.5% females, mean age 43.4), 27 oncologic (37% females, mean age 68.2), and 129 miscellaneous procedures (38% females, mean age 53.6). There was 1 CD grade IV bariatric complication, 1 CD grade IV and 4 deaths in the oncologic group and 1 CD grade IV and 8 deaths in the rest of the patients. Regarding the 3rd phase, we documented 9 bariatric (mean BMI 53.1, 55.6% females, mean age 32.6), 33 oncologic (42.4% females, mean age 66.9) and 59 miscellaneous procedures (47.5% females, mean age 53.3. There were no complications in the bariatric group, 2 deaths in the oncologic group, and 3 deaths in the rest. There was a statistically significant discrepancy between bariatric and oncologic operations across the 3 phases (p 0.015), but not between bariatric and miscellaneous operations (p 0.167). Furthermore, we divided complications into low (I-II) and high grade (III-V) but did not yield any statistically significant difference across operations or phases.

Conclusion:

We documented a significant over-representation of oncologic operations during the pandemic in detriment of bariatric ones. Additionally, complications after bariatric operations were not significantly higher than those documented in other operations. These findings should be considered when determining the urgency of an operation.

O-187

IDENTIFICATION OF RISK FACTORS FOR THE FORMATION OF GALLSTONES IN POST-BARIATRIC SURGERY PATIENTS

Basic science and research in bariatric surgery

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Introduction:

The increase of obesity worldwide has led to a rise of bariatric surgery procedures in the last few years. Bariatric surgery is often associated with an increase of vesicular lithiasis. Weight loss after bariatric surgery promotes the formation of biliary calculus.

Object:

To identify the possible risk factors for the development of gallstones in patients undergoing bariatric surgery at Clinica Santa María.

Methodology:

A retrospective cohort study (n=1385) in which anthropometric and metabolic data of patients undergoing bariatric surgery at Clinica Santa María between the years 2012 and 2016, with no history of preoperative biliary pathology, and who had post-bariatric surgery abdominal ultrasound recorded on clinical records during the first post-operative year, were analyzed.

Results:

The incidence of cholelithiasis at the first year after bariatric surgery was 53.79%. The patients who presented cholelithiasis after bariatric surgery in this study were younger, with higher frequency of fatty liver and less frequency of arterial hypertension than patients without cholelithiasis Preoperative weight and body weight at the control of the post-operative month, the total weight reduction at the 6th and 12th month, and total BMI reduction at the 3rd and 12th month post-operative were higher in the group with cholelithiasis compare with the group without cholelitiasis. In a multivariate analysis, the presence of Fatty Liver and the amount of total weight loss during the first 3 post-operative months are risk factors for development cholelithiasis.

Conclusions:

The incidence of cholelithiasis after bariatric surgery was greater than 50%. Fatty Liver and the amount of weight loss the first 3 months after surgery were significantly associated with an increased risk of cholelithiasis after bariatric surgery. No association was found in other variables of interest such as diabetes mellitus, dyslipidemia, cholesterolemia, and the development of cholelithiasis after bariatric surgery.

O-188

IMMUNOSUPPRESSION AND CLOSTRIDIUM DIFFICILE INFECTION RISK IN METABOLIC AND BARIATRIC SURGERY PATIENTS

Endoscopic and percutaneous interventional procedures

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[1]University of Texas Health Science Center at Houston, Dallas, United States; [2]University of Texas Southwestern Medical Center, Dallas, United States; [3]University of Miami, Miami, United States.

Background:

Immunosuppressant use increases the risk of Clostridium difficile infection; however, no evidence exists in population undergoing bariatric surgery taking immunosuppressants.

Objectives:

Analyze the relationship between immunosuppressant use and Clostridium difficile infection after metabolic and bariatric surgery.

Methods:

A retrospective analysis of the 2015-2018 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data was conducted. The MBSAQIP data includes information from 854 affiliated practices in the United States and Canada. Initial sample size was 760,076 MBS patients. After excluding participants due to missing age (n= 20,013) and missing Clostridium difficile infection data (n= 168,093) final analyses were performed on 571,970 patients. Logistic regression models generated the odds of post-MBS Clostridium difficile infection by immunosuppressant status (+/-).

Results:

Unadjusted logistic regression analysis showed that patients using immunosuppressants were 76% more likely to have post-operative Clostridium difficile infection (OR=1.764, 95% CI= 1.174 to 2.650; p <0.01) versus MBS patients not taking immunosuppressants. After adjusting for age, gender, ethnicity, pre-operative BMI, and surgery procedure type, the association remained significant (aOR=1.750, 95% CI=1.164 to 2.630; p <0.01). Patients who completed the laparoscopic Roux-en-Y gastric bypass procedure had more than double the odds of developing Clostridium difficile infection compared to those who completed the laparoscopic sleeve gastrectomy procedure (OR=2.123, 95% CI=1.808 to 2.493; p < 0.0001).

Conclusion:

Our results show that patients taking immunosuppressants have significantly higher risk of developing Clostridium difficile infection post-operatively. These findings suggest that patients using immunosuppressants should be closely monitored both pre- and post-procedure.

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O-189

IMPACT OF APREPITANT ON POST-OPERATIVE BARIATRIC SURGERY ANTI-EMETIC UTILIZATION, PATIENT SATISFACTION, AND COSTS

Enhanced recovery in bariatric surgery

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1Research, Orlando Health, Orlando, United States; 2Bariatric Surgery, Research, Orlando Health, Orlando, United States; 3Pharmacy, Orlando, United States.

Background/Introduction:

Postoperative nausea and vomiting (PONV) is one of the most common adverse effects of anesthesia resulting in patient discomfort and dissatisfaction. In patients undergoing bariatric surgery, the incidence of post-operative nausea and vomiting (PONV) is reportedly as high as 65%.(1) PONV may increase the morbidity associated with bariatric surgery due to dehydration and electrolyte disturbances, as well as, surgical complications such as anastomotic dehiscence and suture tension due to retching and vomiting.(2) At our institution, the standard of care for prevention of post-operative nausea and vomiting included pre-operative administration of intravenous (IV) dexamethasone and IV ondansetron and post-operative administration antiemetics as needed. However, PONV continues to be one of the most common factors contributing to patient dissatisfaction in postoperative care in this patient population.

Postmarking studies of oral aprepitant have demonstrated that preoperative doses of 40 to 80 mg administered orally may significantly reduce postoperative nausea and vomiting.(3,4) In studies comparing IV fosaprepitant (Emend) to IV ondansetron, similar rates of complete response were shown over a spectrum of different surgical interventions, with IV fosaprepitant showing mildly improved prevention of vomiting. While IV fosaprepitant has not been directly studied in preventing postoperative nausea and vomiting in bariatric surgical patients, oral aprepitant 80 mg plus ondansetron preoperatively compared to placebo plus ondansetron has been shown to reduce the incidence of vomiting in this population.(3) In a study comparing triple antiemetic prophylaxis with dexamethasone, droperidol, and ondansetron with or without oral aprepitant, patients receiving aprepitant had significantly reduced rates of postoperative nausea and vomiting during the early recovery phase and lower emesis episodes at 48 hours. (4) Data comparing IV fosaprepitant to PO aprepitant can be used to extrapolate that IV fosaprepitant would likely be beneficial for this indication, as well.

Enhanced recovery after surgery (ERAS) pathways aim to maintain physiological function, enhance mobilization, reduce pain and facilitate early oral nutrition post-operatively. This is accomplished by reducing perioperative surgical stress. ERAS pathways were initially developed for elective colorectal surgery but have expanded into other fields of surgery due to the improved outcomes in terms of reduced morbidity, faster recovery, and reduced length of hospital stay in dedicated centers. (6) Several components have been introduced in the setting of bariatric surgery, but no overall consensus has been established.

Objectives:

The objective of this study was to evaluate the impact of IV fosaprepitant (Emend) administration on post-operative antiemetic use, patient satisfaction, and costs in bariatric patients. The purpose of evaluating the effectiveness of fosaprepitant is to contribute to an ERAS pathway that is specific to the needs and demands of the bariatric surgery patient population.

Methods:

After Institutional Review Board (IRB) approval and following the Health Insurance Portability and Accountability Act (HIPAA) guidelines, the authors performed a retrospective chart review of a clinical database. Four hundred bariatric surgery patients were retrospectively reviewed with 200 patients receiving aprepitant (aprepitant group) and 200 not receiving aprepitant (non-aprepitant group). This sample exceeds 384 the sample size for unknown or large populations with $\alpha = 0.05$ and 95% Confidence Level. All data for age and BMI are demonstrated as mean ± standard deviation, unless otherwise noted. Statistical analysis was performed using descriptive analysis, two-tailed Student's t-test, with $p<0.05$ regarded as statistically significant. An Independent Samples two-tailed and descriptive statistics was conducted to compare for mean antiemetic use in the aprepitant versus non- aprepitant bariatric patient groups. Antiemetics including ondanestron, promethazine, scopolamine patch and dexamethasone. Statistical analyses were performed using IBM Statistical Package for Social Sciences (SPSS) software (version 27, IBM SPSS Inc., Chicago, IL, USA). Values of $P < 0.05$ were considered statistically significant.

Patients included in this retrospective study underwent three primary bariatric procedures: sleeve gastrectomy, gastric bypass, and traditional duodenal switch. Additional procedures some patients underwent during the primary procedure were a hiatal hernia repair or cholecystectomy. A hiatal hernia repair was performed for all hernias discovered at the time of the operation. A small subset of patients with hiatal hernia repairs underwent a partial wrap or cardiopexy. A cholecystectomy was performed for all patients who had evidence of gallstones on pre-operative ultrasound or at the discretion of the surgeon. Other bariatric surgeries included in the study were conversions: gastric band removal to sleeve gastrectomy, gastric bypass, or duodenal switch; sleeve gastrectomy to gastric bypass or duodenal switch; open second stage duodenal switch.

All procedures were performed using the Da Vinci Xi robotic platform. Pre-operative anti-nausea medication was administered by the anesthesia department per the standard of care. All non-aprepitant group patients, were given in pre-op unless patient had an allergy: scopolamine patch- 1 patch, dexamethasone 10mg IV, ondanestron 4mg IV, and promethazine 12.5mg IV. In the aprepitant group, the treatment was given 30 minutes prior to surgery. IV anti-nausea medication was standard for all patients in the immediate post-operative period as detailed below: ondansetron: 4 mg IV every 8 hours as needed for nausea/vomiting and promethazine: 12.5 mg IV every 6 hours as needed for nausea/vomiting.

Oral aprepitant 125 mg is equivalent to 115 mg of fosaprepitant administered intravenously.(5) Based on the available bariatric surgery data and oral to intravenous dose conversion, intravenous fosaprepitant 75 mg dose was administered at least 30 minutes prior to anesthesia induction with the option to repeat a 75 mg dose after 24 hours, if nausea and/or vomiting persisted despite standard of care. For the purpose of the study this parameter was defined as around the clock administration of ondansetron 4 mg IV every 8 hours or the use of both ondanestron and promethazine 12.5 mg IV as needed without resolution of nausea and/or vomiting 24 hours after surgery.

Results:

An independent-samples t-test was conducted to compare antiemetic use: ondansetron, promethazine, scopolamine patch and dexamethasone in aprepitant and non-aprepitant bariatric patient groups. The results suggest that when Bariatric Patients received aprepitant, their antiemetic use decreases. For ondansetron, promethazine, scopolamine patch, and dexamethasone use there was a significant difference in the aprepitant versus non-aprepitant groups (.37 ± .745) versus (7.61 ± 5.202), $t (207.152) = 19.51$, $p = 0.001$, $d=1.951$, 95% CI [6.517, 7.983], (92 ± 1.279) versus (2.21 ± 2.399); $t (398) = 6.737$, $p = 0.001$, $d = .674$ 95% CI [.917, 1.673], (.25 ± .685) versus (1.41 ± .577); $t (386.695) = 18.234$, $p =.001$, $d=1.823$, 95% CI [1.030, 1.28], (.05 ± .218) versus (1.14 ± .398); $t (311.11) = 34.414$, $p= 0.001$, $d = 3.441$, 95% CI [1.032, 1.158], respectively. Specifically, aprepitant does have a statistically significant effect on ondansetron, promethazine, scopolamine patch, and dexamethasone use, with a large effect size, which is the quantitative measure of the magnitude of the difference between two means.

For costs, our results suggest that when bariatric patients received aprepitant, their antiemetic medication costs and costs of medication administration decreases. For ondansetron, promethazine, scopolamine; and dexamethasone mean costs decreases from non-aprepitant versus aprepitant groups from ($9.44 ± 6.45) to ($0.45. ± 0.92); ($9.83 ± 10.68) to ($4.07 ± 5.69); from (24.73 ± 10.15) to ($4.40 ± 12.06); from ($2.46 ± 0.85) to ($0.11 ± 0.47), respectively. Even with the higher costs of aprepitant the total cost of PONV treatment decreases on average per patient for non-aprepitant ($46.47 ± 20.54) versus aprepitant ($25.69 ± 14.84) groups. Even with the higher costs of aprepitant and cost of medication administration the total cost of PONV treatment decreases on average per patient from non-aprepitant ($46.47 ± 20.54) versus aprepitant group ($25.69 ± 14.84). Representing a sum decrease in medication and medication administration costs of $9,293.37 in the non-aprepitant group compared to $5,138.62for aprepitant patients. Additionally, there are costs that are intangible that were not accounted for in this study such as limitation of patient activities of daily living by use of promethazine, time spent by nursing staff administering antiemetics, and cost of symptom management of PONV when uncontrolled.

Mean patient satisfaction rose 11.6% after implementing aprepitant use in patients. This was seen by comparing the six months prior to aprepitant use as compared with the six months after implementation.

Conclusion:

Aprepitant is associated with a significant reduction in the use of antiemetics and costs while increasing patient satisfaction. We believe that aprepitant administration should become standard of care in the ERAS protocol for bariatric patients.

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O-190

IMPACT OF BARIATRIC SURGERY IN OBSTRUCTIVE SLEEP APNEA REMISSION

Bariatric surgery in children, adolescents and young adults

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Background:

Obstructive sleep apnea (OSA) is a chronic disorder present among general population, especially in obese patients. OSA considerable decreases the quality of life and increases the probability of die due to cardiovascular disease. The OSA prevalence in obese patients ranges from 2% to 14%, way higher than that of normal-weight population. Consequently, an urgent diagnosis and treatment of OSA in obese patients is needed. Few information is known in regard of follow-up of patients with OSA and bariatric surgery.

Objectives:

this study aimed to investigate the remission of OSA at 24 months after bariatric surgery and its associated factors. Methods: From 2011 to 2016, a retrospective study was conducted at “Centro Médico Nacional 20 de Noviembre”, in Mexico. All patients aged 18 years or older, with OSA, that underwent bariatric surgery were included. Patients with incomplete data were excluded.

Results:

fifty-three participants were included; 38 (71.7%) were female and the mean age was 42.25 years (±8.41). Laparoscopic sleeve gastrectomy was performed in 38 (72%) patients and Roux-en-Y gastric bypass in 15 (28%). Forty-eight (90.6%) patients no longer required CPAP, showing resolution of OSA at two years post-operative. There were no statistically significant differences in age, sex, weight, BMI, %EWL, procedure, laboratory test (glucose, HB1Ac) and comorbidities between the groups of resolution vs. no resolution of OSA.

Conclusion:

patients who underwent bariatric surgery had a positive impact on OSA resolution. Considering the limitations in this study, results must be endorsed by future studies and include a larger sample size.

O-191

IMPACT OF BARIATRIC SURGERY ON URINARY INCONTINENCE IN OBESE INDIVIDUALS: THREE YEAR OUTCOMES

GERD and bariatric surgery

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Background:

There is scanty evidence on the impact of bariatric surgery on urinary incontinence in the Asian population in the long term.

Methods:

Patients who underwent bariatric surgery from June 2018 to June 2019 were screened using the International Consultation on Incontinence Questionnaire-Urinary Incontinence-Short Form (ICIQ-UI-SF) questionnaire. Patients having urinary incontinence (UI) were identified and followed until 3 years of surgery using the ICIQ-UI-SF. These were classified as having stress, urge or mixed type of urinary incontinence. The prevalence, change in scores and the number of pads used were compared at baseline and at follow up.

Results:

A total of 148 patients underwent bariatric surgery of whom, 41 patients (M= 2, F=39) had UI. Pure stress incontinence was seen in 70.7%, 19.5% had pure urge incontinence and rest had the mixed type. Using logistic regression, it was found that female gender was the most important predictor of having UI (OR: 8.33).
The prevalence of UI decreased from 27.7% at baseline to 3.4 % at 1 year and the results were sustained at 3 year follow up. The mean ICIQ UI SF score improved from 8.76 (SD=3.2) at baseline to 0.66 (SD = 2.1) at 1 year and this was well sustained at 3 year follow-up. . The proportion of patients with UI using any number of pads decreased significantly from baseline at 1 and 3 year follow up. There was also significant decrease in the number of patients having moderate to very severe UI. Proportion of patients showing resolution was highest among the stress incontinence group. Presence or absence of comorbidities did not significantly influence the ICIQ-UI-SF scores.

Conclusion:

Bariatric surgery leads to profound improvement in urinary incontinence in obese individuals which is well sustained until 3 year of follow up. Resolution rates might be higher in Asian population.

O-192

IMPACT OF COMMON CHANNEL AND TOTAL ALIMENTARY LENGTH ON OUTCOMES AFTER ROUX-N-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Roux-en-Y gastric bypass (RYGB) has proven its reliability over time in excess weight loss and resolution of comorbidities. The common channel during which biliopancreatic enzymes meet with ingested food represents the actual amount of intestine that is available for nutrient absorption, and determines how malabsorptive of an operation one performs. It stands to reason that the common channel (CC) length could influence weight loss. It is not clear which patients will not achieve optimal weight loss after a RYGB, however, we propose that these patients have a longer length of small bowel and specifically a longer CC, diminishing the malabsorptive effects of a RYGB. We seek to establish if there is an association with percentage of bowel bypass with the excess weight loss achieved.

Methods:

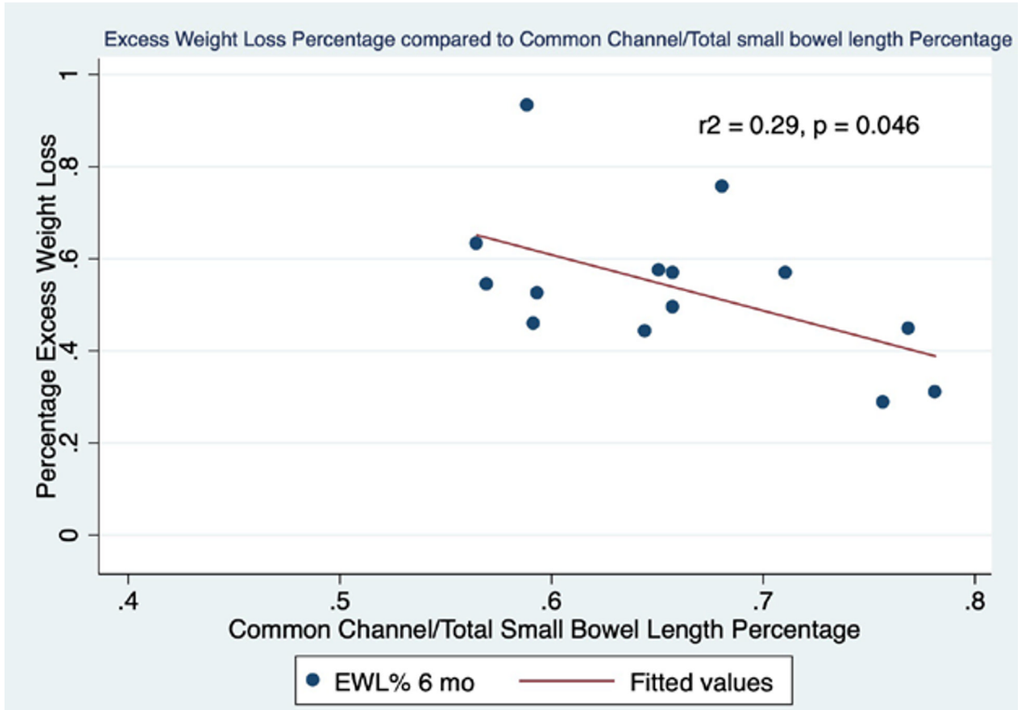
A retrospective review of adults undergoing RYGB between 01/01/2018 - 5/1/2019 was performed. The length of small bowel and proximal alimentary limb length were extracted from the medical record. The common channel length was calculated from these lengths. Descriptive statistics were calculated. The correlation between excess weight loss (EWL) percentage and CC percentage (ratio of CC/total small bowel length) are reported.

Results:

A total of 35 patients underwent RYGB during the time of study with successful measurement of their total alimentary limb. The median BMI was 43.4 (IQR: 37.7-50.7). Thirteen patients had DM (37%), while twenty-three patients had hypertension (68%). There is a clear negative relationship (beta coefficient = -1.21) between the CC percentage and the percentage of EWL as depicted in Figure A, with 29% of the variability attributed to the CC percentage (r2 = 0.29, p =0.046). 20% of patients had a resolution of their DM, while 23% had resolution of their hypertension. There was no clear association between CC percentage and resolution of comorbidities in this short-term study.

Conclusions:

We have shown that the CC available to absorb nutrients is a key variable in determining weight loss. We suggest that rather than measuring a defined proximal alimentary limb and biliopancreatic (BP) length, bariatric surgeons should consider measuring a defined CC length as a percentage of small bowel length. The percent of intestines bypass may hold more relevance in weight loss than any predetermined length, as is currently used in most RYGB. More work needs to be done to determine the ideal percentage for optimal weight loss.



O-193

IMPACT OF DIETARY AND LIFESTYLE FACTORS OUT BARIATRIC SURGERY OUTCOMES IN THE UNDERSERVED BARIATRIC POPULATION

Sleeve gastrectomy

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Introduction:

Despite the increasing prevalence of severe obesity in underserved communities, socioeconomic status and race are rarely studied in the bariatric surgery population as factors that may affect bariatric outcomes..

Objective:

The objective of this study was to determine if self-reported socioeconomic factors and lifestyle habits differ between patients at a private hospital (PH) versus an affiliated safety-net hospital (SNH) with a bariatric program, and to analyze their impact on weight loss outcomes after bariatric surgery.

Methods:

Retrospective analysis of patients who underwent laparoscopic sleeve gastrectomies (LSG) performed by the same surgeons at a PH and SNH in an urban setting. A telephone survey regarding demographics, socioeconomic status, dietary habits, and postoperative satisfaction was performed. Weight metrics between PH and SNH were compared. Multivariable logistic regression was performed to analyze independent predictors of failed excess weight loss (EWL) at six months.

Results:

A total of 205 patients from the PH and 105 patients from the SNH were contacted; 54 patients (26%) and 65 (62%) patients participated in the survey respectively. The majority of patients from both hospitals were Hispanic. Patients at SNH reported lower annual household income, higher unemployment rates, and higher rates of utilizing public health insurance (Table 1).

There were no significant differences in dietary and lifestyle habits between both cohorts. The majority of patients exercise 3-4 times a week, purchase fresh produce compared to frozen/packaged products, and live less than five miles away from a grocery store.

There were no significant differences in post-operative outcomes across cohorts. The two groups had similar percent EWL at all time points up to 24 months (Figure 1) and similar rates of failure to achieve 50% EWL at six months (59% vs 46%; P = 0.19) and twelve months (47% vs 29%; P = 0.09). However, patients at SNH reported greater satisfaction after bariatric surgery (43% vs 68%; P = 0.03).

On multivariable analysis, the only factor independently associated with weight loss failure was greater preoperative weight loss (OR 0.9 per kg; P = 0.01).

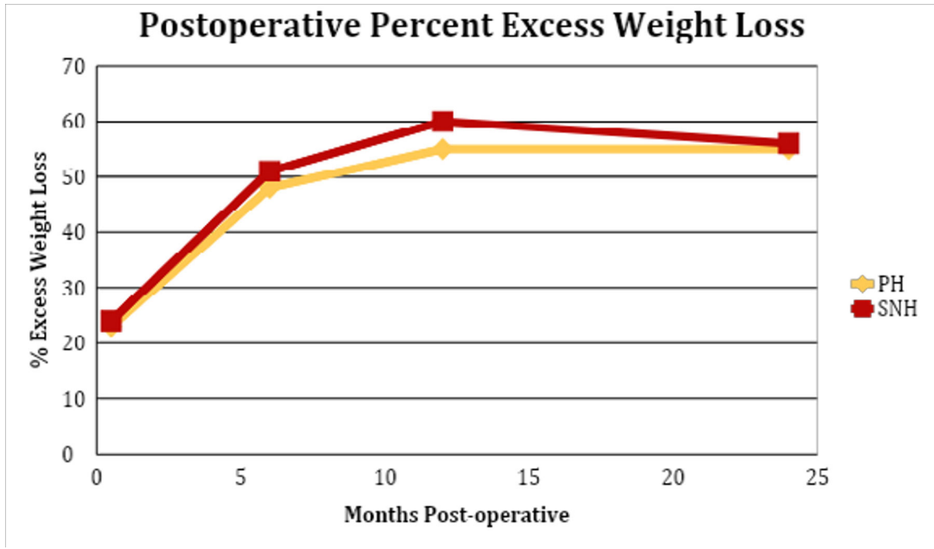
Conclusions:

Despite significant differences in socioeconomic factors, there were no differences in dietary and lifestyle habits between patients at PH versus SNH. Postoperative weight loss and weight loss failure rates were equivalent between SNH and PH.

Table 1

	PRIVATE HOSPITAL (PH) (N = 54)	SAFETY-NET HOSPITAL (SNH) (N = 65)	P VALUE
DEMOGRAPHICS			
Age (years; mean ± STD)	42 ± 12	46 ± 9	0.02
Sex			0.35
Male	8 (15%)	14 (22%)	
Female	46 (85%)	51 (78%)	
Insurance Payer			< 0.01
Private	34 (79%)	0 (0%)	
Government	9 (21%)	58 (94%)	
None	0 (0%)	4 (6%)	
Race			0.36
Hispanic	26 (48%)	41 (63%)	
Caucasian/White	15 (28%)	14 (22%)	
African American	9 (17%)	7 (11%)	
Asian	4 (7%)	2 (3%)	
Other	0 (0%)	1 (2%)	
Income			< 0.01
< $25,000	10 (19%)	37 (62%)	
$25,000 - $49,999	7 (13%)	16 (27%)	
$50,000 - $74,999	10 (19%)	4 (7%)	
$75,000 - $99,999	4 (8%)	3 (5%)	
> $100,000	21 (40%)	0 (0%)	
Employed	38 (70%)	28 (43%)	< 0.01
Highest Education Level			< 0.01
No high school degree	0 (0%)	20 (31%)	
High school degree	9 (17%)	16 (25%)	
Some college	17 (31%)	13 (20%)	
College degree	19 (35%)	16 (25%)	
Graduate degree	9 (17%)	0 (0%)	

Figure 1



O-194

IMPACT OF DISTAL ESOPHAGEAL DIAMETER ON HUNGER AND SATIETY AFTER PRIMARY AND REVISIONAL BARIATRIC SURGERY – A PROPENSITY MATCHED ANALYSIS

Revisional surgery

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Background:

Changes in hunger and satiety play a crucial role after primary bariatric surgery (PBS). Changes are mediated by modification of nervous signals from the volume-reduced stomach and by metabolic signaling changes within the gut-brain axis. Esophageal dilatation (ED) is a specific long-term complication after restrictive bariatric procedures (gastric banding (GB), sleeve gastrectomy (SG)). A possible impact of ED on change of hunger, satiety and weight loss after revisional bariatric surgery (RBS) has never been examined so far.

Objective:

The aim is to compare PBS and RBS regarding their effects on weight loss, hunger and satiety analyzing the diameter of the distal esophagus (DDE).

Methods:

PBS (n = 32) and RBS (n = 32, n = 27 after GB, n = 5 after SG) were propensity score matched 1:1 by type and time of surgery and Body Mass Index (BMI). DDE was measured by two independent investigators analyzing dynamic upper GI X-ray on postoperative day one. Comparisons were made through bivariate analysis regarding DDE and weight loss in kg, excess weight loss in % (EWL%), total body weight loss in % (TBWL%), hunger and satiety.

Results:

Mean BMI was 44 kg/m2 +/− 5.6 (PBS) and 44.3 kg/m2 +/− 5 (RBS). Mean postoperative Follow-up was 9 months. RBS was performed in mean after 115 months after primary surgery. Mean DDE was 26.8mm +/- 5.3 in the PBS group and 30.2mm +/- 5 in the RBS group (p = 0.012). Weight loss in kg was 35.7 +/- 16.8 (PBS) and 27.6 +/- 15.4 (RBS) (p = 0.049), EWL in % was 66 +/- 18.6 (PBS) and 50.6 +/- 24.4 (RBS) (p = 0.006) and TBWL in % was 28.3 +/- 9.1 (PBS) and 21.5 +/- 11.1 (RBS) (p = 0.009). Bivariate Correlation (Pearson) showed only a weak correlation between DDE and the factors hunger, satiety, weight loss, EWL and TBWL and no statistically significant correlation was found.

Conclusions:

Patients who underwent RBS after restrictive procedures had a significant greater esophageal diameter in comparison to patients who underwent PBS. No statistically significant correlation was found of DDE on weight loss, hunger and satiety after surgery.

O-195

IMPACT OF GASTROESOPHAGEAL REFLUX AFTER SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Introduction:

Sleeve Gastrectomy (SG) has become the most popular surgical technique and also a cause of Gastroesophageal Reflux (GERD)

Objective:

Determine the long-term incidence rate of gastroesophageal reflux in patients undergoing sleeve gastrectomy, and to evaluate the role of pre-existing GERD, preoperative endoscopy and weight gain with respect to postoperative GERD.

Method:

Retrospective study conducted in a single Chilean clinical center, Clínica Santa María, of a prospective database.

All patients undergoing sleeve gastrectomy between July 2013 to December 2017 were considered.

Data was collected
1. Minimum weight reached
2. Current weight
3. Presence and frequency of episodes of heartburn or regurgitation
4. Use and frequency of PPIs
5. Results of recent upper gastrointestinal endoscopy.

Postoperative Gastroesophageal Reflux (GER-postop) was classified as present if there were clinical symptoms, use of PPIs and / or altered EDA.

Results:

The database available at the time of the study considered had 698 patients undergoing SG, achieving follow-up of 61% of them. Of these 428 patients, 268 (63%) of them completed a follow-up of at least 2 to 5 years, and the other 160 (37%) patients achieved a follow-up greater than 5 years.

The development of GER-postop occurred in 72 patients, which corresponds to 16.8% of our sample. Table 2 shows the Kaplan-Meier estimate for the percentage of GER-postop.

It stands out in our series that only 4% of the patients undergoing SG had some degree of GERD, (411/428)

Regarding de novo GERD, our findings at 5 years are only 17.6% and we have also been able to identify that the lost percentage of excess BMI (% EBMIL) could have a predictive role with respect to the development of de novo GER.

Since it was found that a% EBMIL greater than 53% predicts the non-development of postoperative GER with moderate sensitivity and specificity.

Conclusions:

Although there is currently no consensus on the contraindication of OS in the context of pre-existing GERD, in this study we have demonstrated that a low rate of long-term postoperative GERD is obtained by not performing OS in a patient with pre-existing GERD.

O-196

IMPACT OF PRE-OPERATIVE KETAMINE ON POST-OPERATIVE BARIATRIC SURGERY OPIOID USE AND LENGTH OF STAY

Enhanced recovery in bariatric surgery

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Background/introduction:

Bariatric surgery is the most effective treatment for morbid obesity. The goals of bariatric surgery include sustained weight loss as well as pronounced effects on obesity related comorbidities. With the ever-worsening obesity epidemic the number of procedures worldwide continues to increase. The sleeve gastrectomy and roux-en-y gastric bypass account for the majority of the bariatric procedures performed today.

Post-operative pain management is an ever-growing challenge with the rise of the opioid crisis. Studies show that when perioperative opioid prescribing became the standard operating procedure, prescription related morbidity and mortality increased (2). Patients who receive opioids in the perioperative period are more likely to require a stronger dose of opioids to treat their pain. This is due to the "acute tolerance" effect which can lead to chronic dependence. Due to the side effects, addiction, and mortality potential of opioid analgesics, opioid-free analgesics should be recommended for use during the perioperative period (2).

Ketamine is a 'use-dependent' drug of which blocks NMDA channels. This drug was synthesized in 1962 and used in human experiments with the first published clinical studies in 1965. From the outset it was recognized that ketamine provided potent analgesia but the psychomimetic effects and hallucinations were considered problematic. Research over the past 15 years have confirmed that small concentrations of ketamine are safe and have no propensity to trigger the adverse effects (cardiac, cerebral) attributed to hypnotic doses (3). With the complications associated with opioids, especially in those patients with respiratory disease, obesity, or obstructive sleep apnea, ketamine may offer a more efficient and safer alternative for perioperative analgesia.

Enhanced Recovery after Surgery (ERAS) pathways aim to maintain physiological function, enhance mobilization, reduce pain and facilitate early oral nutrition post-operatively. This is accomplished by reducing perioperative surgical stress. ERAS pathways were initially developed for elective colorectal surgery but have expanded into other fields of surgery due to the improved outcomes in terms of reduced morbidity, faster recovery, and reduced length of hospital stay in dedicated centers (1). Several components have been introduced in the setting of bariatric surgery, but no overall consensus has been established.

Objectives:

The objective of this study was to evaluate the impact of pre-operative ketamine administration on post-operative opioid use and length of hospital stay in bariatric patients. The purpose of evaluating the effectiveness of ketamine is to contribute to an ERAS pathway that is specific to the needs and demands of the bariatric surgery patient population.

Methods:

After Institutional Review Board (IRB) approval and following the Health Insurance Portability and Accountability Act (HIPAA) guidelines, the authors performed a retrospective chart review of a clinical database. 400 bariatric surgery patients were retrospectively reviewed with 200 patients receiving ketamine (Ketamine group) and 200 not receiving ketamine (Non-Ketamine group). This sample exceeds 384 the sample size for unknown or large populations with $\alpha = 0.05$ and 95% confidence level. All data for age and BMI are demonstrated as mean ± standard deviation, unless otherwise noted. Statistical analysis was performed using descriptive analysis, two-tailed Student's t-test, with $p < 0.05$ regarded as statistically significant. An Independent Samples two-tailed and descriptive statistics was conducted to compare for mean Morphine Milligram Equivalent (MME) use and in-hospital Length of Stay (LOS) in the Ketamine versus Non-Ketamine bariatric patient groups. All narcotics used during the post-operative period were converted into MME to standardize their use for statistical analysis. Statistical analyses were performed using IBM Statistical Package for Social Sciences (SPSS) software (version 27, IBM SPSS Inc., Chicago, IL, USA). Values of $P < 0.05$ were considered statistically significant.

Patients included in this study underwent three primary bariatric procedures: sleeve gastrectomy, gastric bypass, and the traditional duodenal switch. Additional procedures some patients underwent during the primary procedure were a hiatal hernia repair or cholecystectomy. A hiatal hernia repair was performed for all hernias discovered at the time of the operation. A small subset of patients with hiatal hernia repairs underwent a partial wrap or cardiopexy. A cholecystectomy was performed for all patients who had evidence of gallstones on pre-operative ultrasound or at the discretion of the surgeon. Other bariatric surgeries included in the study were conversions: gastric band removal to sleeve gastrectomy, gastric bypass, or duodenal switch; sleeve gastrectomy to gastric bypass or duodenal switch. There was one patient included in the study who underwent an open conversion of sleeve gastrectomy to duodenal switch.

Pre-operative analgesia was administered by the anesthesia department per the standard of care. Each patient underwent a transversus abdominis plane block either in the pre-operative waiting area or in the operating room. Ketamine 25 mg intravenous bolus was given during induction of anesthesia and a second 25 mg dose of ketamine was given intravenously infused throughout the duration of the procedure, for a total of 50 mg.

All procedures, except for one, were performed using the Da Vinci Xi robotic platform. For the duodenal switch patients an upper gastrointestinal (UGI) study and drain amylase level were performed on post-operative day number one. The drain was then removed if both of these studies were negative and the patient was started on a bariatric phase 1 clear liquid diet.

Intravenous (IV) analgesia was standard for all patients in the immediate post-operative period as detailed below:

Ofirmev (acetaminophen): 1000 mg IV every 6 hours x 24 hours, surgeon discretion to reorder or not
AND
Robaxin (methocarbamol): 1000 mg IV every 8 hours, stop after 3 days
AND
Dilaudid (hydromorphone): 0.25-0.5 mg IV every 2 hours PRN for severe pain (pain score reported by patient 7-10)
OR
Morphine: 1-2 mg IV every 2 hours PRN for severe pain (pain score reported by patient 7-10)

After the patients were started on a bariatric phase 1 clear liquid diet the pain medications were transitioned from intravenous to oral (PO). The variety of PO pain medications utilized was due to the allergies and sensitivities found in the patients' medical record.

Tylenol (acetaminophen): 650-1000 mg PO every 6 hours PRN for mild pain (pain score reported by patient 1-3)
AND
Gabapentin: 300-600 mg PO every 6 hours, no pain scale
AND
Roxicodone (oxycodone): 5 mg PO every 4 hours PRN for moderate pain (pain score reported by patient 4-6)
OR
Dilaudid (hydromorphone): 2 mg by mouth every 4 hours PRN for moderate pain (pain score reported by patient 4-6)
OR
Tylenol with codeine (12mg/5ml): 10-15 mL by mouth every 4 hours PRN for moderate pain (pain score reported by patient 4-6)
OR
Lortab Elixir (hydrocodone/acetaminophen): hydrocodone 7.5mg/acetaminophen 325 mg- 15 mL PO every 4 hours PRN for moderate pain (pain score reported by patient 4-6)

Under the rare occasion a single dose of Toradol IV 15 or 30 mg was given for breakthrough pain. Due to the variety of pain medications utilized, all narcotics administered in the post-operative period were converted into MME to standardize their use for statistical analysis as stated above.

On discharge all patients were instructed to take Tylenol as needed for pain and the prescriptions listed below were given. Per the Orlando Health Physicians Bariatric and Laparoscopy Center protocol, neither patients in the Ketamine

or Non-Ketamine group were discharged home with opioid pain medications.

Gabapentin 250 mg/5 mL oral solution: take 5 mL orally every 6 hours as needed for pain
Ondansetron 4 mg oral tablet: take 1 tablet orally every 8 hours as needed for nausea
Promethazine 6.25 mg/5 mL oral syrup: take 10 mL orally every 6 hours as needed for nausea

Results:

Descriptive Statistics were utilized on demographic as well as surgery type. 321 female and 79 male patients were included in this study with a mean age of 42.38 ± 11.324 years. The mean body mass index (BMI) at the time of procedure was 45.380 ± 7.73 kg/m2. Mean Morphine Milligram Equivalent (MME) use decreased for the Ketamine group: Duodenal Switch (9.3), Roux-en-Y Bypass (0.69), Gastric Sleeve (3.05), and Conversions/Revision (19.05). Mean Length of Stay (LOS) in hours decreased for the Ketamine group: Duodenal Switch (14.2), Roux-en-Y Bypass (0.65), Gastric Sleeve (0.77), and Conversions/Revision (26.65).

An independent-samples t-test was conducted to compare the MME and LOS. For the mean Morphine Milligram Equivalent use there was a significant difference in the Non-Ketamine (24.23 ± 21.283) versus Ketamine (17.74 ± 16.565) groups; t (398) = 3.398, p = 0.001, d=.340, 95% CI [2.730, 10.229]. These results suggest that ketamine does have an effect on MME use, with a medium effect size, which is the quantitative measure of the magnitude of the difference between two means. Specifically, our results suggest that when bariatric patients are given ketamine, their opioid use decreases.

For Length of Stay (LOS) there was a significant difference in the Non-Ketamine (48.77 ± 30.935) versus Ketamine (41.14 ± 14.26) groups; t (398) = 3.170, p = 0.002, d=.317, 95% CI [2.900, 12.370]. These results suggest that ketamine does have a statistically significant effect on LOS, with a medium effect size. Our results suggest that when bariatric patients are given ketamine, their Length of Stay decreases.

There was report of one female patient in the Ketamine group experiencing an out of body (K-hole) experience. On post-operative day one during morning rounds, the patient expressed that she had undergone a “weird” experience. She stated that when she arrived to the bariatric floor after her operation she could hear and see everyone, but was unable to communicate. Per the patient “I was physically here, but mentally was in another world. I have never experienced anything like that before.” The patient was alert and oriented when discussing the incident and showed no continued side effects from ketamine administration. Medical treatment was deferred because she was stable and had returned back to her normal state. Pharmacy was consulted and stated that treatment for ketamine side effects, per Orlando Regional Medical Center hospital policy, would be Versed 2 to 4 mg IV, start with 2 mg and repeat a second 2 mg dose if needed.

Conclusion:

Ketamine is effective in reducing opioid use as well as hospital length of stay. We believe that ketamine administration should become standard of care in the ERAS protocol for bariatric patients. However, close monitoring for ketamine side effects is warranted.

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O-197

IMPACT OF THE COVID-19 LOCKDOWN ON PRIMARY BARIATRIC SURGERY: A COMPARATIVE STUDY OF WEIGHT LOSS TRAJECTORIES AND PERIOPERATIVE OUTCOMES

Perioperative management

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Introduction:

The COVID-19 pandemic imposed an unexpected lockdown and a complete reorganization of healthcare systems. Loss of continuum of care along with improper lifestyle was expected to worsen bariatric surgery outcomes. However, data reported on outcomes during COVID-19 lockdown is limited.

Objectives:

The aim of this study was to evaluate the impact of the COVID-19 lockdown on weight loss trajectories (WLT) and perioperative outcomes in primary bariatric surgery at a single tertiary referral center.

Methods:

Patients who underwent primary bariatric surgery from November 2018 to March 2019 (Before-Lockdown Group) and from November 2019 to March 2020 (During-Lockdown Group) were retrospectively reviewed from a prospectively maintained registry. WLT were estimated using a random intercept mixed-effects model with repeated measures nested within patients. A third-degree polynomial was used to operationalize time. Age, baseline weight, and comorbidity covariates were included in the model to control for preexisting group differences. Cross-sectional group difference 3- and 6-months post-surgery were examined by applying general linear hypothesis testing to mixed-effects results. Additionally, perioperative outcomes were analyzed.

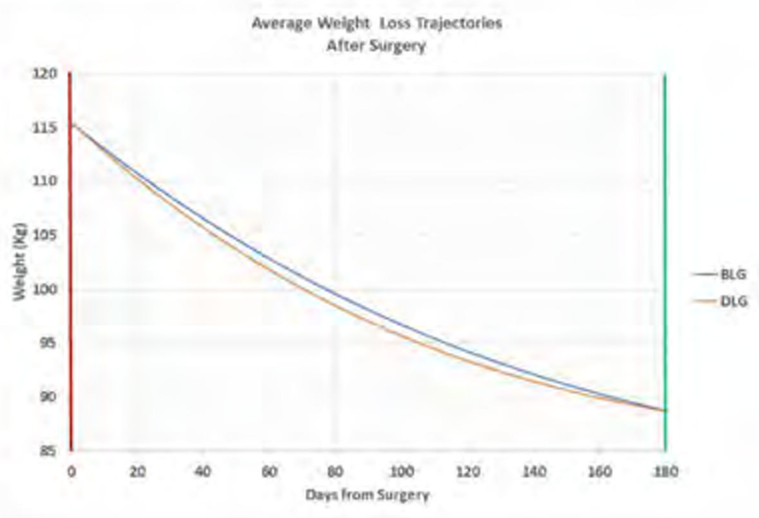
Results:

273 patients were included in the study (133 BLG and 140 DLG). 62.7% were female with a mean age of (35.0 BLG vs. 36.0 DLG years, p=.398). Mean BMI before surgery was (44.0 BLG vs. 43.0 DLG kg/m2, p=.360). Baseline characteristics were similar. After surgery, adjusted average weight decrease in both groups over the time at different levels. (Table 1, section P1). At 3 and 6 months, the adjusted average weights for BLG and DLG were statistically different (expected difference between BLG and DLG were: =1.06kg, p=.013 and =0.04 kg, p=.920, respectively). (Figure 1). There were no statistically significant differences in post-operative major complications within 30-days (2.3% vs. 6.4%, p=.092), ED visits (22.6% vs. 15.7%, p=.149), re-admission rates (2.3% vs. 3.6%, p=.522), re-operation rates (1.5% vs. 3.6%, p=.280), and complications after 30-days (4.5% vs. 2.9%, p=.465). There were no mortalities.

Conclusion:

This series, representing the only reported study evaluating the impact of the COVID-19 lockdown on bariatric outcomes, suggest that procedures were effective and safe in both groups. The short-term outcomes are comparable. Although the DLG had an initial decreased WLT, after 6 months both WLT were similar.

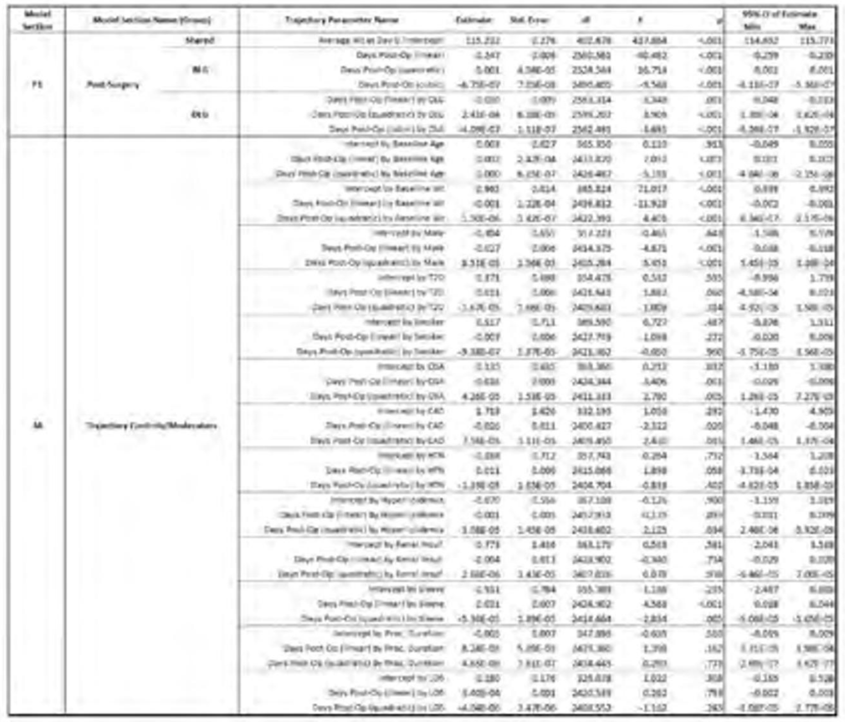
Figure 1. Average Weight Loss Trajectories.



Red line = time of surgery
Green line= 6-months follow up

Abbreviations: BLG, before lockdown group; **DLG,** during lockdown group; **KG,** Kilograms.

Table 1. WLT: Mixed-Effects Result



Abbreviations: BLG, before lockdown group; CAD, coronary artery disease; DLG, during lockdown group; HTN, hypertension; LOS, length of stay; OSA, obstructive sleep apnea; T2D, type 2 diabetes; WT, weight.

O-198

IMPACT OF THE RECONSTRUCTION TYPE WITH DIFFERENT BILIOPANCREATIC LIMB LENGTH ON DIABETES FOLLOWING LAPAROSCOPIC DISTAL GASTRECTOMY IN PATIENTS WITH GASTRIC CANCER AND TYPE 2 DIABETES

Type 2 diabetes and metabolic surgery

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Background:

Efficacy of metabolic surgery in nonmorbidly obese population is unclear and underlying mechanism remains elusive. The present study aimed to investigate changes in glucose metabolism and incretin hormone response following different reconstruction methods after distal gastrectomy in nonmorbidly obese patients with gastric cancer and type 2 diabetes.

Methods:

This nonrandomized prospective cohort study recruited 20 patients with gastric cancer, type 2 diabetes, and body mass index < 30 kg/m2. Reconstruction method after distal gastrectomy was conventional Billroth I (BI, n = 6), long-limb Billroth II (BII, n = 7), or long-limb Roux-en-Y (RY, n = 7) anastomosis. A 75g-oral glucose tolerance test (OGTT) was given preoperatively; and at 5 days, 3 months, and 6 months postoperatively. Serum glucose, insulin, glucagon, and incretin hormones were serially measured.

Results:

At 6 months after surgery, complete diabetes remission was achieved in 57.1% of the BII group but in no patients in the other two groups (p = 0.018). BII group showed a significant reduction in area under curve (AUC) of serum glucose at 6 months after surgery, in contrast to no change or a paradoxical increase in the other 2 groups. In the BII group, a significant increase in glucagon-like peptide-1 secretion was observed after surgery but not maintained at 6 months, while postoperative hyperglucagonemia was alleviated along with a reduction in glucose-dependent insulinotropic polypeptide AUC.

Conclusions:

BII gastrojejunostomy with elongated biliopancreatic limb achieved better diabetes control with favorable incretin response after distal gastrectomy compared to BI or RY reconstruction.

O-199

IMPLEMENTING AN ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL FOR THE DUODENAL SWITCH

Enhanced recovery in bariatric surgery

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Background/Introduction:

Implementation of an enhanced recovery after surgery (ERAS) protocol promotes hospital recovery and, with some procedures, improves peri- and early postoperative morbidity and mortality. To our knowledge, there are no reports that have specifically focused on ERAS and the duodenal switch (DS).

Objectives:

In this study, we have examined retrospectively the effects of an ERAS versus standard care (SC) protocol on perioperative and early postoperative outcomes of the DS.

Methods:

The study was a retrospective analysis of DS data collected between January 2017 and December 2021. The DS population included 100 patients: one group (n=60) under an ERAS protocol and the other (n=40) under SC. Outcome measures included perioperative complications, reoperations, length of hospital stay, 30-day readmissions and mortality.

Results:

Characteristics of the ERAS and SC groups were similar with regard to weight (145 and 145 kg, ERAS vs. SC, respectively), BMI (50.4 and 51.5 kg/m2), gender distribution (% Female to Male = 79% and 75%), age (42 and 45 y), and incidence of major associated diseases, i.e. diabetes, hypertension, dyslipidemia, cardiovascular disease, GERD, depression/anxiety. Following surgery, there were no significant ($p>0.05$) differences between the ERAS and SC groups for intraoperative complications, but 30-day readmission rates were less (3.4% vs. 20% for ERAS vs. SC). Duration of hospital stay was significantly ($p<0.01$) lower (1.47 vs. 2.12 days) for patients under ERAS.

Conclusions:

Implementation of an ERAS protocol with the DS results in an earlier hospital discharge and a lower rate of 30-day readmissions.

O-200

IMPROVEMENT OF ANTHROPOMETRIC MEASUREMENTS, BODY COMPOSITION AND QUALITY OF LIFE AFTER ENDOSCOPIC GASTROPLASTY: PRELIMINARY RESULTS FROM A PROSPECTIVE, SINGLE CENTER, RANDOMIZED OBSERVATIONAL STUDY

Gastric plication

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Introduction:

Endoscopic Gastroplasty (EG) is an endoscopic therapy focusing on gastric body remodeling to treat obese patients. Nowadays three different techniques are mainly described in literature: endoscopic sleeve gastroplasty (ESG) with an overstitch endoscopic suturing device, endoluminal vertical gastroplasty (EVG) with a simple triangulation platform and endoluminal suturing device, and distal primary obesity surgery endoluminal (D-POSE) with an endoscopic plication system.

Objectives:

Our study aimed to assess changes in anthropometric measurements (AM), body composition (BC) and quality of life (QoL) of these three EG techniques at 6 months follow-up.

Methods:

This was a prospective, single center, randomized observational study (ClinicalTrials.gov NCT04854317) of patients who underwent EG (through ESG or EVG or D-POSE) for the treatment of obesity. Outcomes included the efficacy of the three EG procedures at inducing weight loss, improving body circumferences (arm, waist, hip and calf), BC (fat mass (FM), free fat mass (FFM), body cell mass (BCM)), and QoL.

Results:

Between July 2020 and October 2021, 90 obese (body mass index 36.6 ± 3.1 kg/m2) patients (mean age, 46 ± 10 years; females 87.5%; obesity class II as the main obesity class in 58.3% cases; hepatic steatosis as the main comorbidity with a 70% frequency) underwent EG through ESG or EVG or D-POSE (fig.1). At 6 months, 63/90 (70%) patients attended their follow-up visit. They experienced 16% ± 6% total body weight loss (TBWL) and 39.7% ± 14.9% excess weight loss (EWL). Sixty out of sixty-three (95.2%) patients achieved at least 5% TBWL, and 54/63 (85.7%) achieved at least 25% EWL. All the body circumferences homogeneously decreased ($p<0.001$) (fig. 2a). Concerning BC, the FM and FM% significantly decreased ($p<0.001$), while the FFM% and BCM% increased ($p<0.001$) (fig. 2b). The QoL measured by BAROS test improved at 6-month follow-up ($p<0.01$).

Conclusions:

EG through ESG, EVG and D-POSE, focusing on gastric body reduction and sparing the fundus and antrum, appears to be effective for the treatment of obese patients inducing weight loss and improving the other AM, BC and QoL.

Fig.1. Enrollment and Randomization of patients

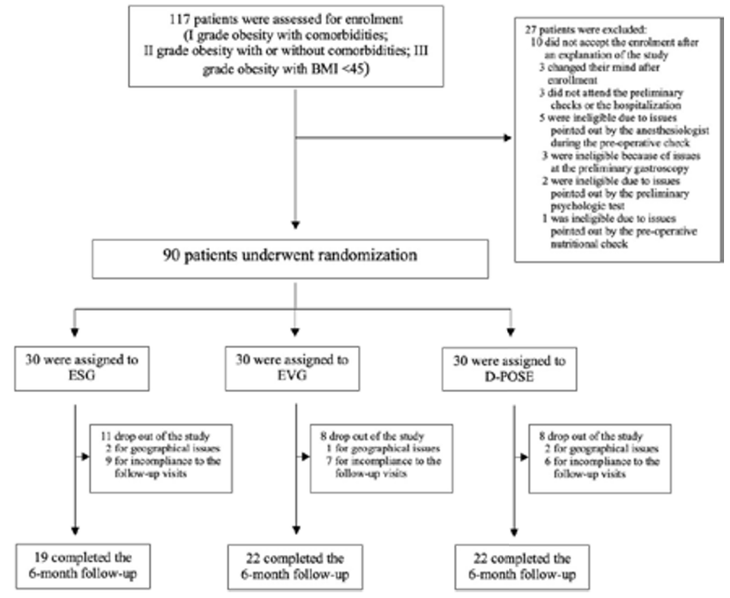
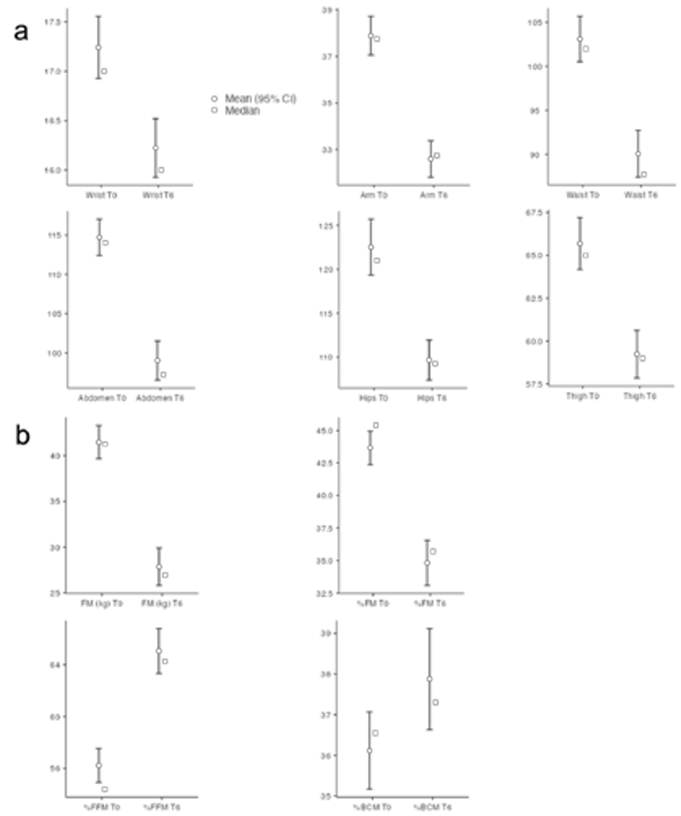


Fig. 2: Paired samples T-test of body circumferences (**a**) and body composition parameters (**b**) just before the operation (T0) and 6 months later (T6).



O-201

IMPROVEMENT OF STEATOHEPATITIS AND HEPATIC FIBROSIS THROUGH FISBROSCAN AND LIVER BIOPSY IN DIABETIC AND NON-DIABETIC OPERATED OBESE PATIENTS. COMPARATIVE STUDY

NASH and bariatric surgery

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Introduction:

Non-alcoholic steatohepatitis (NASH) and liver fibrosis are present in a high percentage of obese patients undergoing bariatric surgery. Fibroscan, which measures fibrosis and the degree of severity of liver disease, helps to understand its evolution in patients undergoing bariatric surgery. Improvement may be different in diabetic patients than in non-diabetic patients.

Objectives:

The objective of this study was to perform a fibroscan study before and after surgery, in 30 obese patients with different degrees of non-alcoholic fatty liver disease (NAFLD), half of them diabetics, undergoing bariatric surgery and the liver biopsy was taken.

Methods:

The patients included in this study were recruited for a laparoscopic sleeve gastrectomy intervention at our Hospital in the year 2021. The diagnosis of NASH was made by histopathological analysis of liver biopsies obtained during the surgical intervention. The patients underwent a Fibroscan before the surgical intervention and six months after it. The statistical analysis of the results obtained was performed with the SPSS 22.0 program, comparing diabetic patients with non-diabetic patients.

Results:

The results obtained from the liver biopsies, which used five different techniques for histopathological analysis, revealed similar involvement in the two cohorts studied, diabetic and non-diabetic patients. The Fibroscan study, which measures the degree of fibrosis and liver involvement, classifying them in degrees and measured in kilopascals, was similar in both groups, prior to surgery. However, when the test was repeated six months after surgery and although it was not statistically significant, it did highlight a greater recovery of liver tissue in non-diabetic patients, regardless of weight loss and improvement in comorbidities.

Conclusion:

Tests such as Fiborscan or systematic liver biopsy help us to better assess this disease and to know its evolution after Bariatric Surgery. According to our study, liver improvement is more pronounced in non-diabetic patients, compared to diabetics. We conclude that this may be another reason to prioritize interventions in diabetics, and not wait until the liver damage is irrecoverable.

O-202

INCIDENCE AND PREDICTIVE FACTORS OF GALLSTONE DISEASES AFTER BARIATRIC SURGERY: A SINGLE-CENTER RETROSPECTIVE STUDY

Post-operative complications

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Background:

Several reports showed high incidence of gallstone diseases after bariatric surgery. The amounts and rate of weight loss is known as the predictive factors for gallstone development. However, the incidence and predictive factors in Asian populations have not been adequately studied.

Objectives:

We aimed to evaluate the incidence and predictive factors of gallstone diseases after bariatric surgery in the Thai population.

Methods:

Patients who underwent laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y gastric bypass (LRYGB); between 2012 and 2019, were reviewed. All patients underwent routine preoperative imaging for gallstone diseases. Follow-up imaging for gallstone diseases was performed every year after surgery, or once the patients became symptomatic. Patients with preexisting gallstone, gallbladder polyp, the absence of postoperative imaging for gallstone diseases, previous cholecystectomy/bariatric surgery, or taking gallstone-lowering prophylactic agent were excluded. Predictive factors for postoperative gallstone diseases were analyzed using univariate and multivariate analysis.

Results:

A total of 243 patients (62.1 % females), who underwent LSG (70.8%) or LRYGB (29.2%), with a mean (SD) age of 36.4 (11.2) years were included for analysis. The incidence of postoperative gallstone diseases was 19.3 % (symptomatic 1.2% and asymptomatic 18.1%), with a median follow-up of 24.6 (range 6.1- 98.4) months. Preoperative body mass index (Pre-BMI) was significantly associated with the development of postoperative gallstone diseases [OR(95%CI): 1.07(1.02,1.12), p=0.004], while gender, age, comorbidities, type of procedure, percentage of total weight loss and rate of weight loss were not associated with postoperative gallstone disease developments. Furthermore, patients with a BMI ≥ 50 kg/m2 were 3 times more likely to develop postoperative gallstone diseases after bariatric surgery compared to those with a BMI < 50 kg/m2 (p=0.013).

Conclusion:

The incidence of gallstone diseases after bariatric surgery was relatively high, with Pre-BMI was being only predictive factor in this study. Regular screening of gallstone should be considered after bariatric surgery, particularly in patients with high BMI. However, only a few patients developed symptomatic gallstone. Further studies should be conducted to determine the benefit of gallstone-lowering prophylactic agents on the reduction of postoperative gallstone diseases.

O-203

INCIDENCE OF ESOPHAGEAL BILE REFLUX AFTER OAGB/MGB: A PRELIMINARY ONE-YEAR REPORT OF A PROSPECTIVE ONGOING STUDY

Endoscopy and surveillance after bariatric surgery

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Background:

There is concern about bile reflux into the esophagus post OAGB-MGB with resultant esophagitis that may predispose to Barrett's Esophagitis and malignancy. We decided to determine the incidence of bile reflux into the esophagus post OAGB.

Method:

A prospective study was initiated offering routine endoscopic evaluation to post OAGB patients symptomatic and asymptomatic. Data was collected including bile reflux into the esophagus and/or findings of esophagitis in post OAGB patients who consented.

Results:

165 patients post OAGB underwent endoscopy between August 2018 and September 2019. 84/165 (50.9%) were male, the time since surgery ranged from 3 to 72 months with an average being 15.18 months. 10/165 (6%) had bile in esophagus. Bile in pouch was found in 80/165 (48%). Gross evidence of esophagitis was 20/165 (12.1%) and gastritis was 33/165 (20%). Average pouch length was 12.87cm. On statistical analysis, there was no correlation found between bile in the esophagus and the pouch length or esophagitis. Marginal ulcers were seen in 27/165 (16%) patients.

Conclusion:

In this preliminary report there is bile reflux into the esophagus in 6% of the post OAGB patients. There is no correlation between the bile in the esophagus with the incidence of esophagitis. Also there seems to be no relationship between bile in the esophagus and the length of the pouch. Bile reflux in the stomach is a common occurrence after One Anastomosis Gastric Bypass. This study is ongoing and multi-centric long-term studies are warranted.

Key words: OAGB; Endoscopic Evaluation; Bile reflux; Esophagitis; Pouch length.

O-204

INCIDENTAL FINDING OF INTESTINAL MALROTATION IN LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS SURGERY (PRESENTATION OF THREE CASES)

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Iranmehr Hospital, Tehran, Iran.

Background:

Intestinal malrotation is a congenital anomaly which occurs between one in 200 to one in 500 live births. Symptoms occur in only one in 6000 live births. However, most patients with intestinal malrotation are asymptomatic. Malrotation results from the incomplete rotation and fixation of the midgut during embryonic development. It can be identified during a radiography or surgical procedure.

Objective:

We are presenting three patients with morbid obesity who scheduled for Roux-en-Y gastric bypass surgery. We didn't find the Treitz ligament (duodenojejunal angle) at its right place, and the appendix was on the left side in all three cases. We found the beginning of small intestine on the right side of the abdominal cavity instead of left. Roux-en-Y gastric bypass was done for them in Mirror Technique without any short or long term complications.

Results:

In our three cases, preoperative investigations didn't reveal the intestinal malrotation, and we found it incidentally during the surgery. All of them were females with BMI of 42,45, and 43 and age 33,43, and 47 years old respectively without any co-morbidity. We performed laparoscopic Roux-en-Y gastric bypass for them. All of them were discharged from the hospital the first day after surgery without any complication. Weight loss results were acceptable one year after surgery.

Conclusion:

Intestinal malrotation is not contraindicated for Roux-en-Y gastric bypass surgery, and all Bariatric surgeons should know about this abnormality and how to face it.

Keyword: Intestinal Malrotation, Gastric Bypass, Mirror Technique

O-205

INCLUSION IN DIGESTION OF DUODENUM AFTER SADI-S

SADIs

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Objective:

Development of a technically simple revision intervention with the inclusion of the duodenum in digestion after SADI

Methods:

After performing SADI-S, the patient has developed symptoms like calcium deficiency, which cannot be uncorrected conservatively

A small section of the ileum (40 - 50 cm) was isolated with an already existing duodeno-iliac anastomosis, without its separation and the imposition of an ileoduodeno anastomosis side-to-side between this disconnected section of the intestine and the upper horizontal branch of the duodenum 12. This made it possible to include 12pc in the digestion process, and to preserve the functioning pyloric sphincter.

Results:

Achieved compensation of electrolytes and type 2 diabetes, a decrease in BMI to 27.

Conclusions:

This method of revision surgery is simple and allows you to include 12pc in digestion while preserving the pyloric sphincter.

O-206

INDICATIONS FOR PRIMARY BARIATRIC SURGERY CONVERSION: AN ANALYSIS OF THE 2020 MBSAQIP DATABASE

Revisional surgery

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Introduction:

After bariatric surgery, a conversion procedure may be required. In addition to health benefits, these procedures add potential for complications.

Objectives:

To report choices of bariatric surgery conversions, indications, and 30-day outcomes using the new definitions of MBSAQIP.

Methods:

We searched the 2020 MBSAQIP PUF for cases of surgical conversion from adjustable gastric band (AGB), Roux-en-Y gastric bypass (RYGB), or sleeve gastrectomy (SG). Patients under 18 years of age, primary or revision surgery, those with ASA 5, and emergent cases were excluded.

Results:

Of 168,568 cases, 15,030 met criteria for inclusion as conversion cases, and after exclusions, 12,788 remained. Conversion from AGB to RYGB or SG comprised 47.3% of all cases, conversion of SG to RYGB represented 43.8%, and 8.9% ascribed to other conversions (see Table). Weight regain or inadequate weight loss drove conversion in 63-93% of cases in all categories except for SG to RYGB for which the main reason was amelioration of GERD in 53.9% of cases. Concurrent hiatal hernia repair was performed in 28.5% of SG to RYGB cases compared to 12-19% in other categories. Conversion from RYGB was associated with a high leak rate (3-8%), a greater risk of death (0.62% vs 0.11-0.27%), and higher readmission and re-operation rates.

Conclusion:

The most common indications for conversion surgery were inadequate weight loss or weight regain, and refractory GERD. Hiatal hernia repair during SG to RYGB conversion was significantly higher than other conversion surgeries demonstrating a possible anatomic predisposition in patients with sleeve anatomy. Conversion from RYGB was associated with significant morbidity.

Table. MBSAQIP 2020 Analysis of Primary Bariatric Surgery Conversion from Adjustable Gastric Band (AGB), Roux-en-Y Gastric Bypass (RYGB), and Sleeve Gastrectomy (SG).

Surgery Type	AGB > RYGB (N= 2,264)	AGB > SG (N= 3,782)	AGB > BPD-DS (N= 151)	RYGB > SG (N=97)	RYGB > BPD-DS (N=162)	SG > RYGB (N=5,600)	SG > BPD-DS (N=732)
Concurrent Hiatal Hernia Repair	11.7%	18.6%	13.2%	15.5%	13.0%	28.5%	11.5%
Indication	-	-	-	-	-	-	-
Dysphagia	5.5%	5.6%	3.3%	0%	0%	2.1%	0.4%
GERD	14.7%	7.6%	3.3%	2.1%	0.6%	53.9%	3.4%
Inadequate Weight Loss/ Weight Gain	63.1%	67.0%	81.5%	73.2%	93.2%	36.7%	91.9%
Mechanical Malfunction	6.0%	6.2%	6.0%	0%	0%	0%	0%
^Complications	0.8%	1.0%	0%	10.3%	1.2%	1.9%	0%
*Other	9.9%	12.6%	5.9%	14.4%	5.0%	5.4%	4.3%
30-Day Outcomes	-	-	-	-	-	-	-
Death	0.27%	0%	0%	0%	0.62%	0.11%	0%
30-Day Readmission	4.8%	2.6%	6.6%	11.3%	18.5%	7.3%	5.5%
30-Day Intervention	1.2%	1.0%	3.3%	1.0%	11.7%	2.3%	2.5%
30-Day Reoperation	2.8%	1.5%	4.6%	4.1%	9.3%	2.9%	2.9%
Anastomotic/Staple Line Leak	0.7%	0.3%	2.0%	3.1%	8.0%	0.5%	1.1%

*Complications: Anastomotic or staple line leak, Dumping syndrome, GI tract ulcer/fistula/perforation/obstruction
*Other (categories representing <5%): Abdominal pain, adhesions, nausea/vomiting, patient intolerance

O-207

INITIAL WEIGHT LOSS POST BARIATRIC SURGERY IS NOT MAINTAINED IN ELDERLY PATIENTS: A MATCHED CASE CONTROL STUDY

Bariatric surgery in the over 65s

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Background:

Laparoscopic bariatric surgery (LBS) is considered an effective treatment for obesity with an acceptable complication rate. However, majority of studies are based on younger patients, with limited data in the elderly, especially beyond one year.

Objective:

To compare complications and weight loss post LBS between elderly, defined as ≥65 years and a younger cohort.

Methods:

This retrospective study included all elderly patients between 2012 to 2018 who were successfully matched 1:1 to those under 65 based on procedure, year of surgery, pre-op BMI (35–39.9, 40–44.9, 45–49.9, ≥50), gender, type II diabetes, hypertension and cardiovascular disease (CVD). Primary outcome was percent total weight loss (%TWL) at one and two years post-surgery. Secondary outcome was complications within 30 days, graded according to the Clavien-Dindo. Categorical data was compared using X2 test, with t-test for means and Mann Whitney U for non-parametric data. Significance at $p<0.05$.

Results:

61 elderly patients underwent LBS, of which 50 were successfully matched. In the excluded unmatched elderly patients there was a higher prevalence of CVD (54.5% vs 8%) compared with the included elderly patients. There was no significant difference in BMI or other co-morbidities.

Each group included 60% LRYGB and 40% LSG. The median age for the elderly was 68(IQR 66–70) compared with 52 (IQR 45–56.5) for the younger controls ($p<0.05$), with mean BMI of 45.1 and 45.5 respectively ($p=0.75$). In each group there were 72% female, 44% type II DM, 84% with hypertension and 8% with CVD. There was also no significant difference in asthma (20% vs 12% in elderly $p=0.28$) or obstructive sleep apnea(38% vs 32% in elderly $p=0.53$).

The LOS (1 day IQR 1–2, $p=0.93$) and complications (5 in the elderly vs 8 in the younger $p=0.38$) were similar between the two groups, with one re-operation each(small bowel perforation during LSG elderly patient, sleeve leak in younger patient).

At one year the mean %TWL for the younger patients was 25.0% (SD 15.6) compared with 21.4% for the elderly (SD 10.4) ($p=0.21$). However by 2 years the mean %TWL for the elderly patients was significantly less (22.2% SD 11.4 vs 28.3% SD 11.4, $p=0.04$).

Conclusion:

Although LBS in the elderly is a safe procedure, this study suggests the initial weight loss is not maintained. Further study is required to determine if LBS for the elderly should be instead for improvement in co-morbidities or quality of life.

O-208

INSUFFICIENT WEIGHT LOSS: UNUSUAL SURGICAL FINDINGS

Revisional surgery

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Introduction:

Bariatric Surgery can achieve weight loss (WL) and treat obesity-related metabolic diseases. However, weight loss failure is common either in form of Insufficient weight loss (IWL) or weight regain. IWL is defined as excess weight loss (EWL%) of less than 50% at 18 months. Poor construction of primary surgery and/or anatomical surgical failure are prominent causes of IWL. We present cases of IWL due to poor anatomical construction and how they were surgically managed.

Methods:

In the period from 2017 to 2022, 25 patients suffered from IWL due to poor construction with unusual findings discovered intraoperatively.

Results:

12 cases were sleeve gastrectomy with huge fundus and/or antrum. 5 cases were unclassical type of surgery. In 3 gastric bypass cases there were errors in bowel measurements and/or mal alignment. In 4 gastric bypass cases a huge gastric pouch was found and in a single case we found incomplete separation of the gastric pouch and the remaining stomach. Presented here are 7 selected cases.

Conclusion:

We should consider poor construction of surgery maybe a cause of IWL after consideration of other factors responsible for this.

O-209

INTRA-THORACIC GASTRIC POUCH MIGRATION FOLLOWING LAPAROSCOPIC SLEEVE GASTRECTOMY AND ITS IMPACT ON THE GASTRIC SLEEVE OUTCOME

GERD and bariatric surgery

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Background:

Intra-thoracic sleeve migration (ITSM) is an underreported complication, its occurrence is incriminated in the suffering from many symptoms like epigastric pain, persistent vomiting, and Gastroesophageal reflux disease with subsequent affection of the quality of life of the bariatric patient.

Objective:

To determine the incidence of ITSM, evaluate its impact on the patient & management efficacy. Methods: Patients underwent laparoscopic sleeve gastrectomy (LSG) in our hospital between January and October 2018 were included in this prospective study and were screened for ITSM up to Three years, Symptomatic patients who failed to respond to medical treatment underwent assessment through esophagogastroduodenoscopy. Confirmed ITSM patients were offered Roux en-Y gastric bypass (RYGB) plus cruroplasty. Quality of life was assessed before and after reoperation using GERD-HRQL questionnaire.

Results:

Three hundred and forty-six LSG were performed in our hospital by the same technique, drop-out rate was (13.29%), Incidence of ITSM was found to be 16%, the most common presentation of ITSM was persistent vomiting (66.7%) followed by refractory GERD (58.3%). Regarding management (45.83%) cases agreed to undergo Surgical revision to RYGB plus cruroplasty. Mean GERD-HRQL score improved after Re-operation from 47.13 to 29.19 (P-value <0.001)

Conclusion:

ITSM should be considered in LSG patients presenting with vomiting and/or GERD. Pre- and post-LSG endoscopic assessment is recommended, CT gastroscopy has shown a high diagnostic value for detection of ITSM. RYGB plus cruroplasty is a valid option if not the best for repair of ITSM even after successful weight-loss LSG.

Keywords: Sleeve gastrectomy, Roux en-Y gastric bypass, Obesity surgery, Bariatric surgery, Gastroesophageal reflux disease, Sleeve migration

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O-210

INTRATHORACIC MIGRATION OF THE STOMACH IN POST GASTRIC SLEEVE SURGERY: ESOPHAGEAL FLUOROSCOPY VS. 3D-CT GASTRIC VOLUMETRY

Endoscopic and percutaneous interventional procedures

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Introduction:

The Gastric Sleeve is the surgical technique with the highest incidence of symptoms associated with gastroesophageal reflux and can result in complications such as intrathoracic migration. Correct follow-up and evaluation of the gastric sleeve is necessary through the support of radiological images such as 3D-CT Gastric Volumetry and Esophageal Fluoroscopy. The volumetry allows to have a better view of the gastroesophageal junction and the stomach to have a more complete evaluation and to determine the existence of complications associated with the surgery.

Objectives:

Determine the sensitivity and specificity of 3D-CT Gastric Volumetry in gastric sleeve surgery patients for the diagnosis of hiatal hernia or intrathoracic migration.

Determine the sensitivity and specificity of Esophageal Fluoroscopy in gastric sleeve surgery patients for the diagnosis of hiatal hernia or intrathoracic migration.

Compare the sensitivity of 3D-CT Gastric Volumetry vs. Fluoroscopy for the detection of intrathoracic migration of the stomach.

Methods:

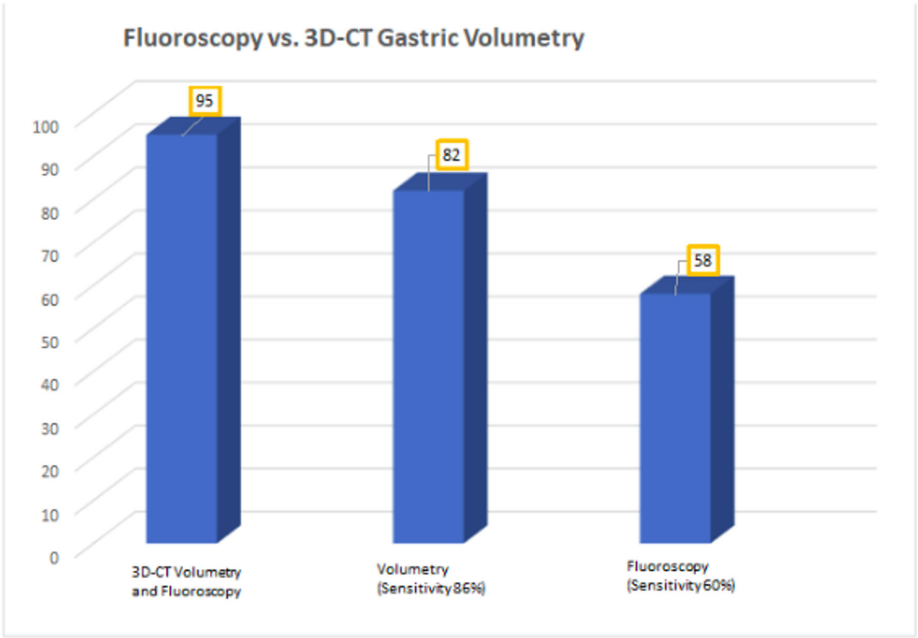
Data has been collected from a longitudinal retrospective database of an esophageal motility study. Out of 243 post-operated Gastric Sleeve Surgery patients, 128 patients have 3D-CT Gastric Volumetry and Esophageal Fluoroscopy studies.

Results:

Of a total of 243 patients who underwent gastric sleeve surgery, 95 had a diagnosis of intrathoracic migration in both tests, 82 only by Volumetry and 58 only by Fluoroscopy. Thus, a sensitivity of 86% and 60% for 3D-CT Gastric Volumetry and Esophageal Fluoroscopy, respectively. In addition, out of 70 patients with negative Fluoroscopy for intrathoracic migration, 37 patients had intrathoracic migration diagnosis by 3D-CT Gastric Volumetry.

Conclusion:

It has been determined that in post-operative gastric sleeve surgery patients, there is a greater recurrence of symptoms associated with gastroesophageal reflux as well as under-reported complications such as intrathoracic slippage. For the latter, it has been shown that there is a better result to identify intrathoracic slippage using the study of Gastric Volumetry by Tomography compared to the study by Fluoroscopy.



O-211

INTRAGASTRIC SINGLE-PORT SURGERY (IGS) ACCESSES THE GASTRIC REMNANT AND ALLOWS ERCP FOR COMMON BILE DUCT STONES AFTER RYGB: A SIMPLE SOLUTION FOR A DIFFICULT PROBLEM

Endoscopic and percutaneous interventional procedures

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Background:

Patients who have undergone a Roux-en-Y-Gastric Bypass (RYGB) and suffer from choledocholithiasis postoperatively pose a medical dilemma. Treatment of the cholestasis can be complicated, due to the altered anatomy in these patients. The gastric remnant and duodenum are isolated from the pancreaticobiliary limb, making endoscopic retrograde pancreatography (ERCP) challenging and often impossible. We describe a method for safe introduction of the endoscope into the gastric remnant through intragastric single port surgery (IGS), thus allowing for simultaneous cholecystectomy.

Methods:

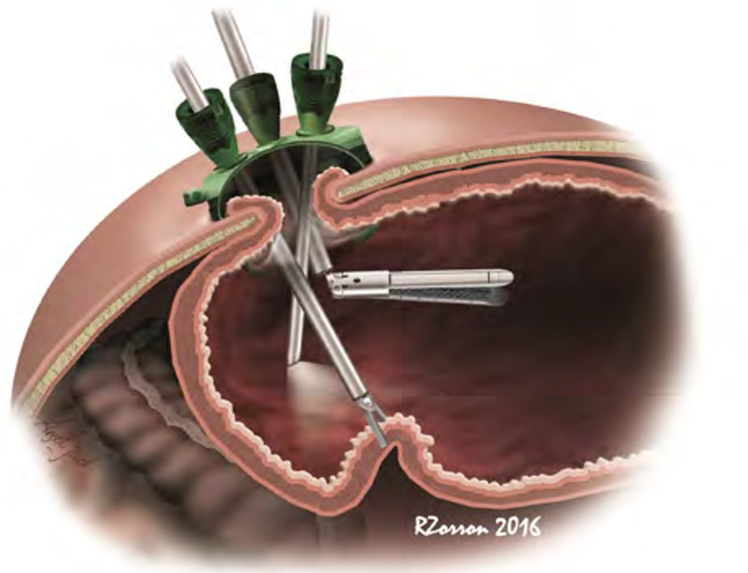
The present study is a non-randomized clinical series describing our preliminary results using a transgastric inserted Single Port device for ERCP after RYGB. The series includes 8 patients who underwent IGS-ERCP after Roux-en-Y gastric bypass.

Results:

The technique was successfully applied for intraoperative ERCP through a transgastric inserted Single Port device (Gelpoint Mini, Applied Medical, Rancho Santa Margarida, CA, USA). Papilotomy was easily achieved without complications. Average Operative time was 144.75 min. The patients recovered without complications and could be discharged after a mean of 4.38 days.

Conclusions:

The novel IGS technique is safe, effective and can be applied to perform ERCP in patients with RYGB anatomy. Transgastric Single Port endoscopic retrograde cholangiopancreatography was simple to perform, achieved excellent results, and allows for endoscopic treatment and cholecystectomy to be performed in a single procedure. The technique can be indicated in patients with complicated gallstone obstruction under altered anatomy after Roux-en-Y gastric Bypass.



O-212

INTUSSUSCEPTION FOLLOWING ROUX-EN-Y GASTRIC BYPASS. A LITERATURE REVIEW OF 120 CASES

Post-operative complications

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Introduction:

Adults' intussusceptions are rare. They are almost always anterograde and induced by a lead-point. However, post RYGB intussusceptions are mostly retrograde and almost always occur without any lead-point.

Objectives:

The aim of this study is to compile and analyze the available data in the literature about intussusceptions occurring after RYGB.

Methods:

A literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases to find all published articles on post-RYGB intussusceptions. The keywords used were intussusception and Roux-en-Y gastric bypass. All abstracts retrieved were screened, and for each one deemed relevant, the full text was obtained. Finally, 96 articles containing 120 cases were studied and analyzed.

Results:

91.67% of patients were females, 19.19% of which were obstetric cases; either pregnant (84.21%) or postpartum (15.79%). Mean age at presentation was 40.44 years old. Mean BMI and absolute weight loss at presentation were 26.52 kg/m2 and 57.22 kg respectively. 8 types of intussusceptions were observed intraoperatively (table 1). Intussusceptions were jejunojejunal, jejunogastric and gastroduodenal in 94.6%, 4.5% and 0.9% of cases respectively. The jejunojejunal anastomosis was involved in 75.28% of all jejunojejunal intussusception cases. Intussusceptions were retrograde in 87.36% and occurred without any lead-point in almost all cases. An ischemic segment of jejunum was observed intraoperatively in 41.67% of cases, 12.5% of which had additional perforation. Intussusception resolved spontaneously in 4.95% of cases. 34.65%, 36.63%, and 23.76% were managed by reduction, resection, and both reduction and resection respectively. Jejunojejunal anastomosis was resected and reconstructed in 61.67% of jejunojejunal intussusceptions cases; in whom management involved resection.

Conclusion:

Post-RYGB intussusception should always be in the differential diagnosis of post-RYGB abdominal pain and/or bowel obstruction, as it carries a life-threatening risk and may be underreported. Further studies to elucidate the etiology and a consensus for its management are warranted.

Table 1 Percentage of each type of intussusception

Percentage	Type of intussusception
63.29%	RINT of the CL into the JJA, BPL, and/or RL
13.92%	RINT of the CL into itself
8.86%	AINT of the CL into itself
6.33%	RI of the RL into the gastric pouch
3.8%	AINT of the RL into the JJA
1.27%	AINT of the excluded stomach into the duodenum and BPL
1.27%	AINT of the BPL into itself
1.27%	RINT of the BPL into itself

RINT, retrograde intussusception; *AINT*, antegrade intussusception; *CL*, common limb; *JJA*, jejunojejunal anastomosis; *BPL*, biliopancreatic limb; *RL*, Roux limb.

ORAL ABSTRACTS

O-213

INVESTIGATING RACE AND SOCIOECONOMIC DISPARITIES IN BARIATRIC SURGERY OUTCOMES

Sleeve gastrectomy

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Introduction:

Obesity is prevalent among economically disadvantaged, racially underrepresented, and publicly insured populations. It has been suggested that socioeconomic factors and race are important factors associated with weight loss and comorbidity remission after bariatric surgery.

Objective:

This study analyzes outcomes of bariatric surgery at a private hospital (PH) versus a safety-net hospital (SNH).

Methods:

Retrospective review of consecutive laparoscopic sleeve gastrectomies (LSG) performed by the same surgeons at an academic PH and SNH in a large metropolitan, urban setting. Demographics, socioeconomic status, insurance status, weight metrics, and perioperative outcomes were compared. Multivariable logistic regression was performed to analyze predictors of failed excess weight loss (EWL) at six months.

Results:

Of the 243 LSG performed, 141 (58%) occurred at PH versus 102 (42%) at SNH. Most patients at SNH were Hispanic, lower socioeconomic status, and had government-sponsored insurance (Table 1). Patients had higher initial BMI at SNH versus PH (48 vs 46 kg/m2; P < 0.01). A larger percentage of patients at SNH presented with hypertension (72% vs 50%; P < 0.01) and diabetes (52% vs 24%; P < 0.01).

There were no significant differences in post-operative outcomes across cohorts. The two groups had similar percent EWL at all time points up to 36 months (Figure 1) and similar rates of failure to achieve fifty-percent EWL at six months (52% vs 53%; P = 0.89) and twelve months (35% vs 36%; P = 0.83). However, patients at PH had greater resolution of diabetes (28% vs 80%; P < 0.01) and hypertension (24% vs 58%; P < 0.01) after surgery.

On univariate and multivariable analysis, the only factors associated with failure to achieve 50% EWL at six months were preoperative weight metrics: higher initial BMI (OR 1.13; P < 0.01) and lower preoperative percent EWL (OR 0.91; P <0.01).

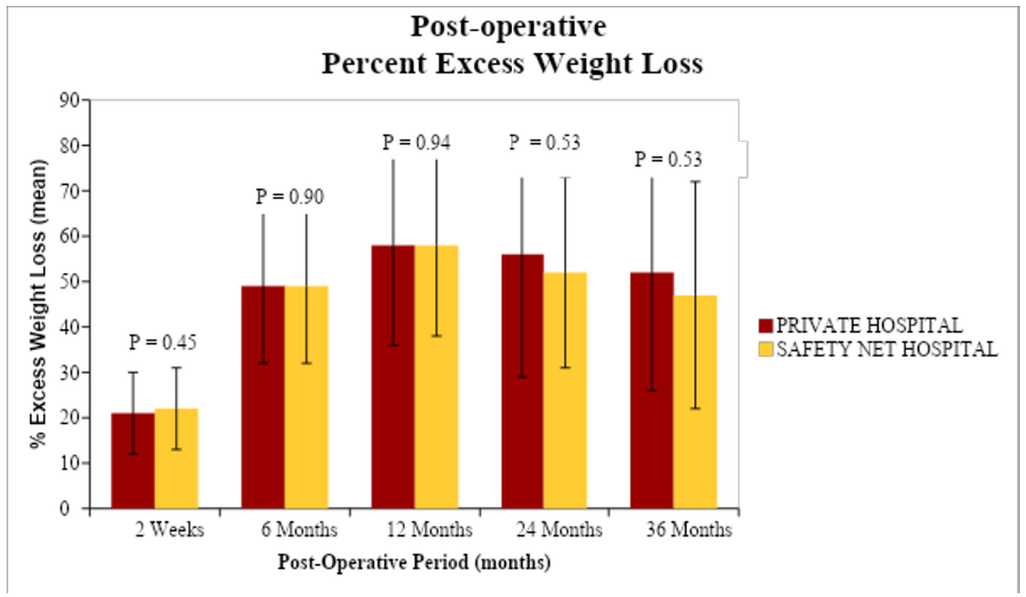
Conclusions:

Weight loss outcomes after bariatric surgery are similar across disparate racial and socioeconomic groups. Future directions should advocate for and not overlook these populations for bariatric surgery.

TABLE 1.

	PRIVATE HOSPITAL (N = 141)	SAFETY-NET HOSPITAL (N = 102)	P VALUE
DEMOGRAPHICS			
Age (years; mean ± STD)	44 ± 13	46 ± 10	0.13
Sex			0.39
Male	23 (16%)	21 (21%)	
Female	118 (84%)	81 (79%)	
Race			<0.01
Caucasian	69 (49%)	17 (17%)	
Hispanic	51 (36%)	66 (65%)	
African American	15 (11%)	14 (14%)	
Asian	0 (0%)	1 (1%)	
Other	6 (4%)	4 (4%)	
Primary Language			<0.01
English	133 (94%)	63 (63%)	
Spanish	6 (4%)	37 (37%)	
Other	2 (1%)	0 (0%)	
Comorbidities			
Hypertension	71 (50%)	73 (72%)	<0.01
Diabetes	34 (24%)	53 (52%)	<0.01
Obstructive Sleep Apnea	37 (26%)	19 (19%)	0.16
GERD	45 (32%)	33 (32%)	0.94
Hyperlipidemia	45 (32%)	40 (39%)	0.24
Cancer	5 (4%)	2 (2%)	0.47
Joint Disease	47 (33%)	29 (28%)	0.42
Depression/Anxiety	60 (43%)	21 (21%)	<0.01
Coronary Artery Disease	1 (1%)	6 (6%)	0.02
Renal Disease	3 (2%)	10 (10%)	0.01
Liver Disease	6 (4%)	7 (7%)	0.37
History of venous thromboembolism	4 (3%)	3 (3%)	0.96
Smoking			0.68
Never	90 (70%)	56 (69%)	
Former	33 (26%)	23 (28%)	
Current	6 (5%)	2 (2%)	
Current Steroid Use	6 (4%)	17 (17%)	<0.01
INSURANCE PAYER			<0.01
Private	110 (78%)	0 (0%)	
Government	31 (22%)	86 (90%)	
None	0 (0%)	10 (10%)	
SOCIOECONOMIC FACTORS			
Median Income based off Zip Code	$70,433	$53,531	<0.01
Quartile 1 (< $46,051)	23 (16%)	37 (36%)	
Quartile 2 ($46,052 - $57,225)	25 (18%)	34 (33%)	
Quartile 3 ($57,226 - $75,703)	35 (25%)	22 (22%)	
Quartile 4 (>$75,704)	58 (41%)	9 (9%)	
OPERATIVE VARIABLES			
Conversion to Open	0 (0%)	1 (1%)	0.23
Intraoperative Complications	1 (1%)	2 (2%)	0.36
POST-OPERATIVE OUTCOMES			
Post-operative Complications	8 (6%)	4 (4%)	0.53
30-day Reoperation	1 (1%)	0 (0%)	0.24
ED visit for bariatric surgery related issue	6 (4%)	1 (1%)	0.14
30-day Readmission	5 (4%)	2 (2%)	0.46
Lost to follow-up	10 (7%)	3 (3%)	0.16
WEIGHT METRICS			
Initial BMI (kg/m2; mean ± STD)	46 ± 8	48 ± 5	<0.01
Excess Body Weight (kg; mean ± STD)	57 ± 25	63 ± 17	0.06
Pre-operative BMI (kg/m2; mean ± STD)	46 ± 9	46 ± 5	0.66
Post-operative % Excess Weight Loss (mean ± STD)			
2 Weeks	21 ± 9	22 ± 9	0.45
6 Months	49 ± 17	49 ±17	0.90
12 Months	58 ± 22	58 ± 20	0.94
24 Months	56 ± 27	52 ± 21	0.53
36 Months	52 ± 26	47 ± 25	0.53
Failed to Achieve 50% Excess Weight Loss			
6 Months	63 (53%)	49 (52%)	0.89
12 Months	31 (36%)	30 (35%)	0.83

FIGURE 1.



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O-214

INVESTIGATING THE EFFECTIVENESS OF BARIATRIC SURGERY COMPARED TO OTHER WEIGHT MANAGEMENT INTERVENTIONS IN PRE-KIDNEY TRANSPLANT PATIENTS

Pre and post transplantation and bariatric surgery

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[1]Upper GI and General Surgery, University of Southern California, Los Angeles, United States; [2]Clinical Nutrition; Abdominal Organ Transplant Program, University of Southern California, Los Angeles, United States.

Introduction:

Morbid obesity is associated with higher perioperative complications and reduced graft survival after renal transplant. The prevalence of obesity with a BMI > 35 kg/m2 affects upwards of 14% of patients being screened for renal transplant.

Objective:

The objective of this study was to: (1) determine the efficacy of referring patients who do not meet weight requirements for kidney transplantation to weight management interventions (WMI) (2) determine if bariatric surgery management provides greater weight loss compared to other WMI prior to kidney transplant.

Methods:

Retrospective review of patients with BMI > 35 kg/m2 presenting for kidney transplant evaluation at a single institution was performed. Patients with a BMI > 35 kg/m2 were considered high-risk kidney transplant candidates and not eligible for kidney transplant consideration. Patients were referred to three WMI with a goal to achieve a BMI<35 kg/m2: outpatient dietician, medically managed weight program, and bariatric surgery. Demographics, weight metrics, and effects of WMI were analyzed.

Results:

Of the 108 patients identified, 35% sought WMI. Patients who underwent WMI were found to have greater median excess weight loss (EWL) at 24 months after initial consultation (21% vs 9%; P = 0.25) and had a greater proportion of patients become eligible for kidney transplant compared to those who did not seek WMI (42% vs 23%; P = 0.05). The majority of patients who underwent WMI sought bariatric surgery consultation (79%). Of those, 20% underwent laparoscopic sleeve gastrectomies, 3% were not candidates for bariatric surgery, and 7% decided to not pursue bariatric surgery. The remaining 70% were enrolled in the bariatric surgery program pending operative plans. Comparing patients who sought bariatric surgery consultation to patients managed with outpatient dietician care and/or medical weight loss management, patients who sought bariatric surgery consultation had greater EWL at 24 months after initial consultation (Figure 1). In addition, a larger proportion of patients who sought bariatric surgery lost sufficient weight to become eligible for kidney transplant (Figure 2).

Conclusions:

Bariatric surgery consultation showed significant improvement in achieving weight eligibility of BMI < 35 kg/m2 compared to other WMI. Further efforts should be made to improve utilization of WMI and bariatric surgery resources for patients ineligible for kidney transplantation.

FIGURE 1

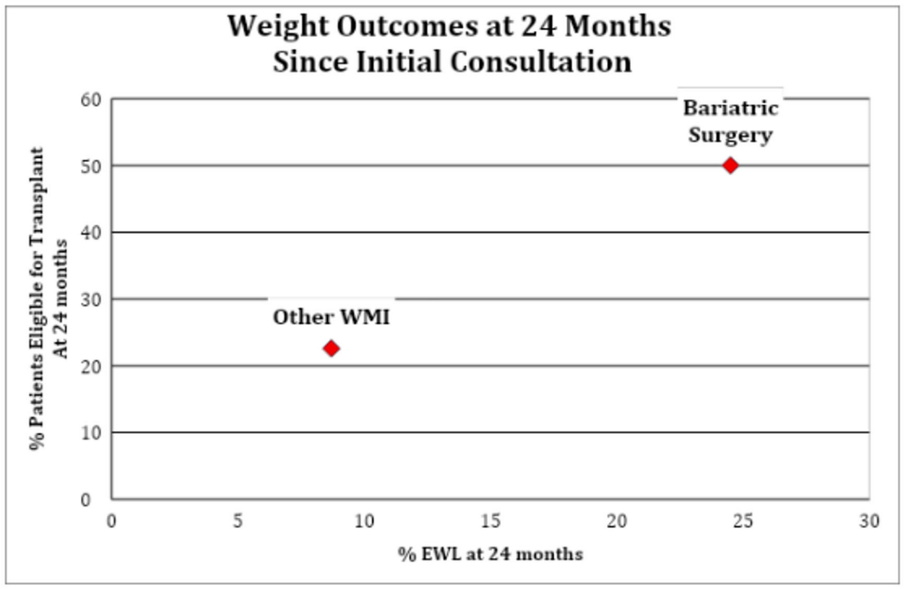
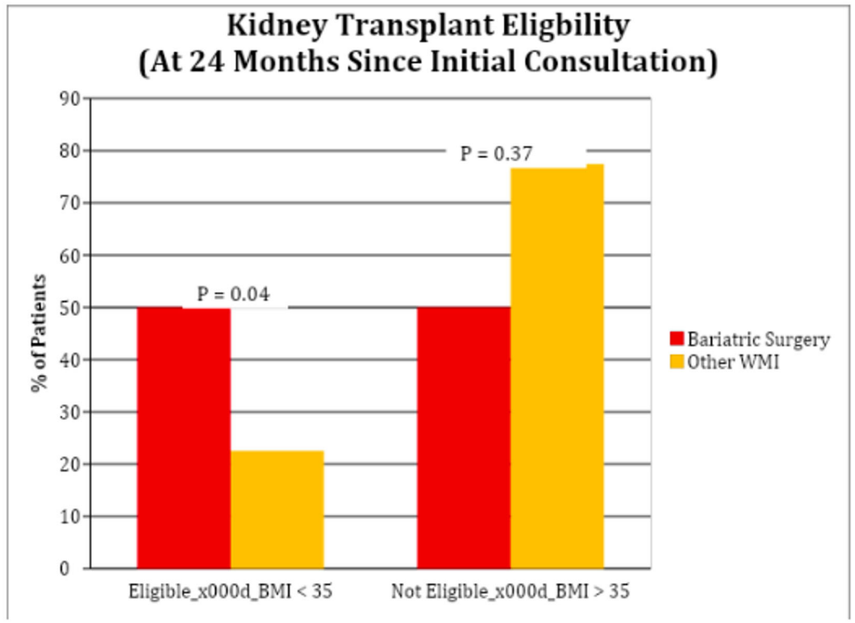


FIGURE 2



O-215

IS BARIATRIC SURGERY ASSOCIATED WITH DELAYED ALTERATION IN BONE MINERAL DENSITY?

Basic science and research in bariatric surgery

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Introduction:

Bariatric surgery is the most effective treatment for severe obesity. Although surgery results in significant weight loss, patients are considered at increased risk of bone health deterioration.

Objective:

The aim of this study was to assess whether bone mineral density (BMD) is affected by bariatric surgery.

Methods:

A retrospective chart review was undertaken between January 2016 and December 2018. Dual-energy x-ray absorptiometry (DXA) scans were reviewed, pre- and post-surgery. Data collected included gender, age, calcium, vitamin D, PTH, and TSH levels. Statistical analyses were undertaken utilizing the Pearson correlation coefficient, simple linear regression and an independent samples T-test.

Results:
95 patients undergoing bariatric surgery had pre-operative DXA scans. 45% (43) had follow-up scans at a mean of 25 (4.5) months post-operatively. The mean age was 44 (SD = 9) years. There were 5 males and 38 females in the cohort. The mean BMI pre-op was 44 (6) kg/m2 and post-op was 28 (5) kg/m2.

A clinically significant reduction (>0.03 g/cm3) in bone mineral density was seen in 37 (88%) patients in the left femur, 39 (91%) patients in the right femur and 19 (44%) in the lumbar spine on follow-up scanning.

PTH levels correlated negatively with BMD in both left and right femora (R= -0.345, p = 0.02 and R=-0.346, p=0.02, respectively).

Regression analysis explained 12% of the variance of BMD in the right femur and 11.9% of the left femur. The model was significant in both cases. [Right : $F(1,33)=4.498$, $p=0.042$; Left : $F(1,33) = 4.445$, $p=0.043$]. PTH levels significantly predicted BMD loss in both right ($\beta = -.0.01$, $t = -2.12$, $p=0.042$) and left femora ($\beta = -.01$, $t = -2.1$, $p=0.043$)

Gastric bypass was associated with a greater BMD reduction in both femora than sleeve gastrectomy: Left (M = -0.142, SD = 0.077, M = -0.078 SD = 0.063, p=0.031) Right (M = -0.137, SD= 0.073, M = -0.027, SD=0.085, $p<0.01$). There was no difference for the lumbar spine.

Conclusion:

Elevated levels of parathyroid hormone are associated with a decrease in bone mineral density following bariatric surgery. The effect is greater following gastric bypass, is seen predominantly at the femoral level and is detectable as early as 19 months following surgery.

O-216

IS BIGGER ALWAYS BETTER? AN EVALUATION OF GASTRIC POUCH SIZE USING CT VOLUMETRIC ANALYSIS AND ITS EFFECT ON MARGINAL ULCERATION AFTER ROUX-EN-Y GASTRIC BYPASS

Post-operative complications

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Introduction:

Marginal ulceration (MU) is one of the most frequent long-term complications following Roux-en-Y gastric bypass (RYGB), with a reported incidence of 8-10%. The causes of MU after RYGB are multifactorial and include surgical technique of constructing the gastro-jejunal anastomosis (GJA), tension at the GJA as well as other causes such as smoking, NSAID, and steroid use.

Objective:

To evaluate the relationship between gastric pouch size and MU using CT volumetric analysis.

Methods:

Patients were identified from a prospectively maintained institutional database who underwent esophagogastroduodenoscopy (EGD) following RYGB from 2010-2015. Patients were excluded if they did not have a CT scan or had a distal obstruction. Measurement of gastric pouch size was performed using 3-D CT software, which analyzed axial CT images. Standard statistics were used, and a univariate analysis was performed between the MU and non-MU groups. Patients in the MU and non-MU groups were then propensity-matched based on known MU risk factors (type of anastomosis, smoking, NSAID and steroid use, GERD, and PPI use).

Results:

In total 122 patients met criteria for the study, 57 of which had MU on EGD and 65 who did not. The MU group had a greater percentage of smokers (26.3% vs 9.2%, p=0.01) and patients with PPI use (94.7% vs 75.4%, $p<0.01$) than the non-MU group. Other demographic variables, such as age, preoperative BMI, NSAID use, steroid use, and H. pylori were similar between the two groups ($p>0.05$). All patients had a laparoscopic or robotic RYGB. There was a trend towards an increase in circular stapled anastomosis in the MU group, but it was not statistically significant (66.7% vs 52.3%, p = 0.10). The overall time from operation to CT scan was 26.6 months (range: 0-108 months) for all patients. Oral contrast use was similar between the MU and non-MU groups (61.4% vs 64.6%, p=0.49). The MU group had a larger gastric pouch size than the non-MU group (34.1±11.8 vs 20.1±6.8 cm3, $p<0.01$). Following propensity-matching for known MU risk factors, there were 57 patients remaining in each group. The propensity-matched MU group had a pouch size that was over 70% larger than the non-MU group (34.1±11.8 vs 19.9±6.1cm3; $p<0.01$).

Conclusions:

CT volumetric analysis can be utilized to determine gastric pouch size following RYGB. When controlling for known risk factors, a larger gastric pouch size was associated with the MU following RYGB.

O-217

IS PARTICIPATION IN INSURANCE-MANDATED MEDICAL WEIGHT MANAGEMENT PROGRAM ASSOCIATED REDUCED INPATIENT RESOURCE UTILIZATION DURING THE FIRST POSTOPERATIVE YEAR FOLLOWING BARIATRIC SURGERY

A critical review of the need, or lack thereof, of preoperative weight loss

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Introduction:

Many public and private payers require patients to participate in a 3-6 months supervised medical weight management (MWM) program to qualify for bariatric surgery. There has been long-standing debate regarding the clinical benefits of the insurance-mandated MWM requirement.

Objectives:

To determine whether there is an association between insurance mandated 3-6 months MWM and short-term inpatient healthcare utilization in bariatric surgery patients.

Methods:

The study was conducted using the Pennsylvania Health Care Cost Containment Council's data in Southeastern Pennsylvania in 2016-2017 and records of preoperative insurance requirements. The study population consisted of 2,717 adult patients with a diagnosis of severe obesity who underwent the most common bariatric surgical procedures (open/laparoscopic gastric bypass and open/laparoscopic sleeve gastrectomy) in 2016 and for whom the insurance-mandated precertification requirements were known. Postoperative length of stay and rehospitalizations in these patients were followed during the first year after bariatric surgery.

Multivariable Poisson regression analyses were performed to examine the associations between the MWM requirement and the length of stay, the number of all-cause rehospitalizations, and the number of all-cause rehospitalization days.

Results:

The mean length of stay for patients with and without 3-6 months MWM requirement were 1.96 ± 1.00 and 2.02 ± 1.52 days, respectively. The 3-6-month MWM group had on average 0.17 ± 0.58 rehospitalization, with 0.68 ± 3.56 rehospitalization days during the study period. The corresponding numbers for patients with no MWM requirement were 0.20 ± 0.67 rehospitalization, with 1.02 ± 6.03 rehospitalization days.

The precertification requirement for involvement in preoperative 3-6 months MWM program was not associated with the patient length of stay, the number of all-cause rehospitalizations, and the number of all-cause rehospitalization days, after adjusting for patient age, sex, race, ethnicity, the Elixhauser Comorbidity Score, surgery type, facility where the surgery was performed, payer type, and the estimated median household income.

Conclusion:

The findings of this study suggest that the MWM requirement was not associated with a reduction in inpatient healthcare utilization in the first postoperative year. Insurance requirements for bariatric surgery should be carefully examined to avoid promoting low-value care.

O-218

IS THE PROCEDURELESS GASTRIC BALLOON EFFECTIVE? A STUDY EXAMINING THE EFFECT OF THE SWALLOWABLE INTRAGASTRIC BALLOON BY ALLURION ON BODY COMPOSITION AT 4, 6 AND 12 MONTHS OF FOLLOW-UP AFTER INGESTION. AN ECUADORIAN EXPERIENCE

Endoscopic and percutaneous interventional procedures

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Objectives:

To determine the effectiveness in weight loss and variations in body composition obtained by using the Swallowable Intragastric Balloon at 4th, 6th and 12th months after the installation.

Results:

A total of 167 patients underwent the allurion device placement (120 female, 47 male), 74,3% of the sample were completely healthy with the 25,7% presenting comorbidities. Compliance was high especially for the months before excretion, complete follow up at 4th month included 98,8% of the sample, 94,6% at month 6 and 58,9% at month 12. Mean weight and BMI before the procedure was 83.4 kg (SD 13,59 kg) and 31.2 kg/m2 (SD3,67 kg/m2), respectively. After the ingestion of the Allurion device, 39,5% of the sample did not present any complications or secondary effects but, the most frequent complication was abdominal cramps (22,8%). Of the study group, 4 (2,4%) patients presented intolerance that caused early expulsion by emesis. Total weight loss (TWL) at the 4th month was 15,52 kg (SD 4,92) ($p=0.000$), with small variations at the 6th and 12th month (16,97 kg, SD 5,78 and 16,95 kg, SD 9,06 respectively). Patients that did not achieve their respective goals were given pharmacological aids such as topiramate and phentermine which resulted in an average increase of around 1 kg extra of weight loss, although this difference was not statistically significant ($p>0.05$). Body composition displayed significant variations; fat mass presented a reduction of at least 3 points ($p<0.05$). Basal metabolic rate (BMR) presented an improvement of at least 100 points closer to a healthier goal($p<0.05$). Fat percentage presented the maximal reduction by month 4 ($p<0.05$), muscle mass presented a mild but statistically significant reduction at the 6th month ($p<0.05$), and slow recovery until the final measurement at the 12th month but this finding was not significant ($p>0.05$).

Conclusion:

The Swallowable Intragastric Balloon by Allurion offered support for a non-surgical weight loss with minimal complications and with a reduction in weight, BMI, visceral fat mass, fat percentage, mild reduction of muscle mass under a regime that is safe, non-invasive and with low complication rate. Studies over a lengthier time frame are required to determine the real benefit over weight and body composition to be compare with surgical methods.

O-219

IS THERE A ROLE FOR A VIRTUAL REALITY SURGICAL CARE BUNDLE (VRSCB) FOR PATIENTS UNDERGOING WEIGHT-MANAGEMENT SURGERY?

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

VR (Virtual Reality) technology is rapidly expanding into all aspects of healthcare, accelerated particularly during the COVID pandemic. Its clinical benefits are slow to emerge but are already evident as having benefits that cut across the whole Bariatric patient pathway aligning with enhanced physical health, mental health, pain management and weight management.

Objective:

An evaluation of some of the immersive VR applications which can be applied to patients undergoing bariatric surgery and to provide a concept of a virtual reality surgical care bundle (VRSCB) in this population group with a view to move to clinical trials.

Methods:

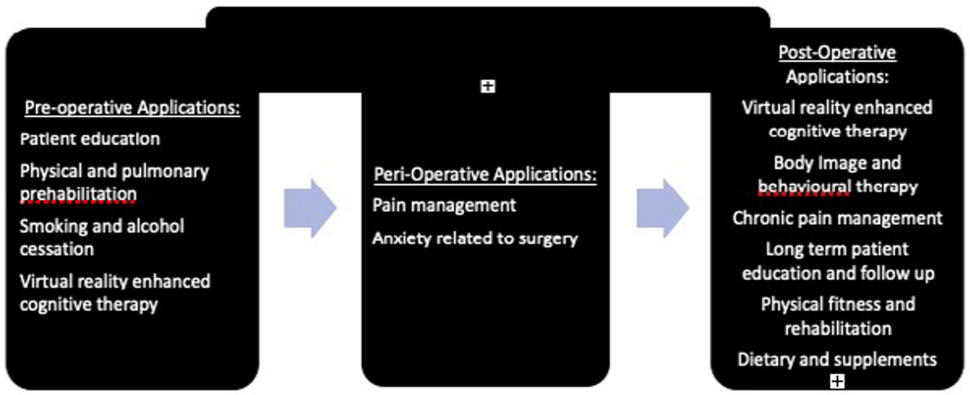
An online library search including Pubmed, Embase, Google Scholar was performed utilizing keywords from the enhanced recovery protocols and recommendations for bariatric surgery. The search highlighted the following terms combined with Virtual reality “education, anxiety and pain related to surgery, physical rehabilitation, behavioural support, substance cessation”.

Results:

Thirty-seven studies were identified supporting VR technology across the surgical pathway. 16 were associated with pre-operative support including education, diet and exercise for optimisation, 9 were associated with peri-operative care including pain management and anxiety support, 12 were associated with post-operative care including Diet and body image support (diagram).

Conclusion:

Virtual reality has shown preliminary benefits across different healthcare services that could be integrated into a unified pathway for bariatric patients undergoing surgical management. To ensure clinical benefit formal validation studies would be required across each sector to provide a virtual ecosystem for bariatric surgical care.



O-220

IS THERE BENEFICIAL CROSS-TALK BETWEEN CHANGES IN ACTIVITY AND DIETARY BEHAVIORS AFTER BARIATRIC SURGERY

Physical activity, sedentary behavior, and bariatric surgery

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Background:

While multiple studies have examined changes in activity and dietary behaviors separately after bariatric surgery, potential “cross-talk” between these behaviors has received limited attention.

Objectives:

We evaluated associations between activity and dietary behavior changes during the initial postoperative year and whether associations varied by surgery type (Roux-en-Y gastric bypass [RYGB]/Sleeve Gastrectomy [SG]).

Methods:

At pre- and 6- and 12-months post-operative, patients (N=79; 55 RYGB/24 SG) wore an accelerometer for 7 days and completed an automated self-administered 24-hour dietary assessment on 3 days. General linear models assessed associations of activity (moderate-to-vigorous intensity physical activity [MVPA], sedentary time [ST)] and dietary (total energy intake [EI; kcal/day], dietary quality [healthy eating index/HEI] behaviors overall and by surgery type.

Results:

Regarding pre- to postoperative behavior changes, mean MVPA (MVPA minutes/day—14.68±13.00, 19.40±23.90, 15.24±13.27) and ST levels did not change (ST minutes/day—636.45±157.94, 636.83±143.51, 664.09±151.06). Mean EI levels decreased at 6- and 12-months postoperative (Kcal/day—1933.84±774.36, 1056.99±405.73, 1206.81±403.72, ps<.001), whereas mean HEI scores (indicating poor dietary quality) did not change (53.97±10.39, 54.47±11.32, 55.25±10.99). Greater 12-month postoperative MVPA increases associated with greater EI decreases, but only for RYGB (p<.05). No other activity-dietary behavior associations were observed.

Conclusion:

Participants on average reported large EI decreases postoperatively, but made minimal changes in other dietary and activity behaviors. Results suggest that greater MVPA increases could assist with achieving greater EI decreases, although this potential benefit appears to be limited to RYGB patients. Additional research is needed to confirm these findings and determine whether activity-dietary behavior associations differ during weight loss maintenance versus weight loss.

O-221

ITALIAN SURVEY ON PERCEPTION OF OBESITY AND BARIATRIC AND METABOLIC SURGERY: A COMPARISON BETWEEN GENERAL PRACTITIONERS AND PATIENTS WITH OBESITY

Integrated health

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Introductions:

Obesity is a pandemic, chronic and relapsing disease that affects 10,5% of the Italian population. Even though Bariatric and Metabolic Surgery (BMS) is the most effective treatment for obesity, only 0.1 % of BMS eligible patients are treated surgically in the world to date.

Objectives:

To investigate the level of awareness that people with obesity (PwO) have of their own condition and the level of knowledge regarding the possible treatments available. To compare collected data on PwO with data obtained from general practitioners (GPs).

Methods:

This cross sectional, non-interventional, descriptive study collected data via an online survey. 521 people were interviewed: 320 PwO-201 GPs. Survey data was summarized in percentages and 95% Confidence Interval (CI 95%). The comparison between the two independent proportions was analysed with Chi square test. A p-value<0.05 was considered statistically significant.

Results:

There is a lack of awareness of obesity as a pathology among PwO. Firstly, most PwO (60%) consider obesity to be an aesthetic problem and secondly a health problem (59%). Conversely, 80% of GPs consider obesity a disease. 38% of PwO declared that they have been doing nothing to lose weight and 49% of those trying to lose weight declared little or no satisfaction with the results obtained and the remedies taken. The objectives pursued by PwO and GPs, as far as the treatment of obesity was concerned, were different: to improve quality of life: PwO 45% vs GPs 36% p=0.04; to reduce weight: PwO 30% vs GPs 20% p=0.01; to control/improve comorbidities: PwO 25% vs GPs 44% p<0.0001. Although 95% of GPs claim to know about BMS, they recommended it only to 5% of their obese patients. In treating obesity GPs considered BMS less efficient than diet and physical activity (83%vs90%) and to be indicated mainly for patients with comorbidities which cannot be controlled otherwise. More than 90% of GPs have shown great interest in receiving further information on BMS.

Conclusion:

Obesity is a national priority. Implementing prevention strategies by raising people's awareness is as essential as providing structured programmes for the treatment of obesity. We believe it is important to make GPs more knowledgeable in order to deal with their patients' obesity problems and be able to suggest structured treatments on a multidisciplinary level at specialised centres for the cure of obesity as well as contemplate BMS as a standard obesity treatment.

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O-222

LA MEDICIÓN DE LA PRESIÓN GÁSTRICA Y SU IMPORTANCIA COMO FACTOR DEL DESARROLLO DE REFLUJO GASTROESOFÁGICO

GERD and bariatric surgery

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Introducción:

La enfermedad de reflujo gastroesofágico es una enfermedad causada por factores que alteran la fisiología normal de la unión gastroesofágica como hernia hiatal, acalasia o cirugía esofagogástrica previa. La presión gástrica basal (PGB) y presión gástrica post deglución (PGD) son variables de importante conocimiento porque al incrementarse alteran el mecanismo de compuerta del esfinter esofágico inferior y ocasionar reflujo por diferencial de presión. En la población general y preoperatorio de cirugía bariátrica la presión gástrica es baja pero los pacientes post operados de manga gástrica (sistemas de alta presión) existe un incremento anormal y excesivamente alta.

Objetivos:

Determinar el valor promedio de la presión gástrica de pacientes en un centro de evaluación de motilidad digestiva.

Determinar el promedio de presión gástrica en pre y post operatorio de manga gástrica.

Métodos:

Fue utilizada una base de datos de una cohorte retrospectiva de pacientes con estudios de motilidad esofágica. La medición de la presión gástrica fue realizada mediante manometría esofágica de alta resolución con introducción del transductor 15 cm por debajo del Esfinter esofágico inferior obteniendo presiones en reposo durante 30 segundos, y luego con deglución de 200 ml de agua por 30 segundos. La población es de 946 pacientes, evaluados 216 pacientes en el pre operatorio de cirugía bariátrica y 71 pacientes con estudios pre y post operatorio.

Resultados

La presión gástrica promedio es de 10.4 ± 8.1 mmHg (n=496), por lo que valores por encima de 20mmHg se consideraron anormales, y el promedio aumenta a 53.20 ± 106, 668 mmHg (n=496) luego de deglución de 200 ml. En el preoperatorio de pacientes a manga gástrica (n=216) la PGB fue 9 ± 5,5 mmHg y la PGD fue 26 ± 37 mmHg, ambos valores aumentaron en el post operatorio a 18 ± 11 mmHg y 137 ± 149 mmHg respectivamente. El valor máximo de PGD en post operados fue de 700 mmHg. En el análisis de pacientes con registro pre y post operatorio (n=71) se observa que en el post op los pacientes con PGB de >20 mmHg se incrementa de 1% a 35%, y el grupo de PGD con >20mmHg aumento de 28% a 83%. (Tabla 1)

Conclusión:

La presión gástrica es un elemento imprecindible durante la evaluación de pacientes candidatos a cirugía que pueda alterar la unión gastroesofágica como la cirugía bariátrica. La presión gástrica puede elevarse importantemente en los pacientes de cirugía bariátrica y es necesaria para comprender las alteraciones de la unión gastroesofágica porque al ser mayor que la presión esofágica distal o el esfinter esofágico ocasiona reflujo.

Figura 1. Gráfico de Presión Gástrica Pre y Post Sleeve.

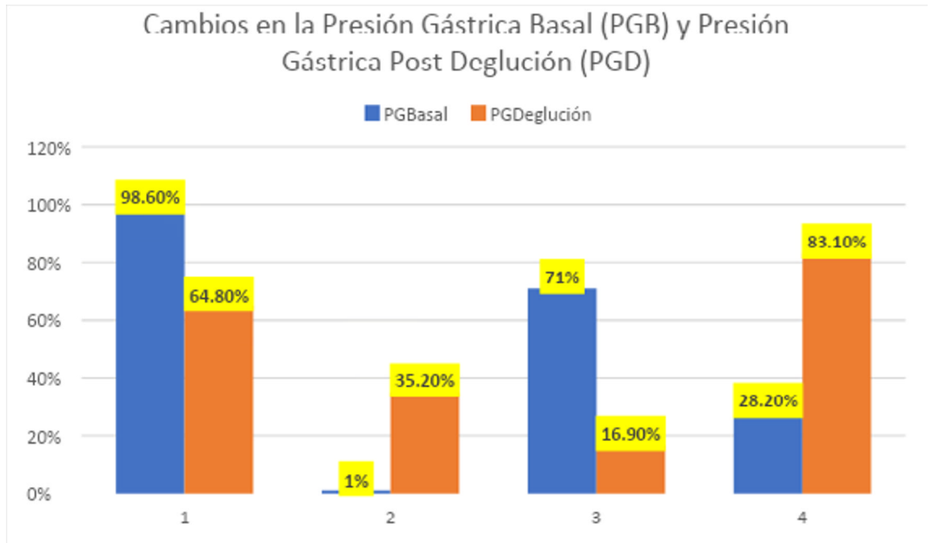

Tabla 1. Variación de la presión gástrica (n = 71)

	Pre Sleeve	Post Sleeve		
Presión	0 – 20 mmHg	> 20 mmHg	0 - 20 mmHg	> 20 mmHg
PGB	98.60%	1%	71%	28.2%%
PGD	71.80%	28.20%	16.90%	83.10%

O-223

LAPAROSCOPIC GASTRIC PLICATION: LONG-TERM FOLLOW-UP

Gastric plication

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Background:

The international experience has failed to reproduce the first studies of laparoscopic gastric plication (LGP). The objective is to analyze the outcomes after 10 years of follow-up of patients subjected to LGP.

Methods:

Prospective and descriptive study, in which obese adult patients who met universal criteria for bariatric surgery were included. Epidemiological data, comorbidities, operating time, hospital stay, percentage of excess BMI loss (%EBMIL) and resolution of comorbidities were collected. The follow-up was realized by annual periodic controls until 2020.

Results:

Patient selection began in 2010. A total of 26 interventions were performed from January 2011 to May 2012. All patients were female. The average preoperative Body Mass Index (BMI) was 38.8 kgs/m2 (SD 3.8). The average %EBMIL at 1 st, 3rd and 9 th postoperative years was 62.2% (SD 27.1), 40.2% (SD 24.5) and 28% (SD 31.9), respectively.

Complications, based in Clavien Dindo classification, during the first 30 postoperative days was: 21 patients with type I, 1 type II, and 2 patients with complications type IVa. At 9 th postoperative year, 9 patients presented adverse effect type I. There was no mortality. Until the 3rd year there was correction of comorbidities. Three diabetic patients were observed at the end of the study, 2 previously healthy.

Conclusions:

The long term %EBMIL was insufficient. The percentage of complications is higher than in other techniques. We do not recommend the LGP.

O-224

LAPAROSCOPIC ROUX EN-Y GASTRIC BYPASS AFTER FAILED VERTICAL BANDED GASTROPLASTY: TWO YEARS FOLLOW UP OF 102 PATIENTS

Revisional surgery

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Background:

Vertical banded gastroplasty (VBG) is now discarded from being a restrictive procedure for morbid obesity due to its many drawbacks, doubtful efficacy and lots of post-operative complications. Roux en-Y gastric bypass (RYGB) is the most commonly performed procedure for VBG revision. So we aimed at reporting our experience in conversional RYGB for a failed VBG.

Methods:

Analyzing follow-up records of 102 patients who underwent revisional RYGB after failed VBG in the period from April 2014 to January 2018.

Results:

A total of 102 laparoscopic revisions of failed VBGs to RYGB were performed. The mean operating time was 161.9 mins ±29.2 and the mean length of the hospital stay was 1.5 days ±1.2. Fourteen patients (13%) developed early postoperative complications (gastrojejunostomy leak 5; bleeding 9). Four patients (4.7%) developed late complications (Port site hernia 2; internal hernia 1; Stomal ulcer 1). The mean BMI pre-RYGB was 46.6 ± 5.9 kg/m2, the mean %EBWL (percent excess body weight lost) of the patients at 12 and 24 months post-revision were 56.2% and 64.3%, respectively. Our patients had immediate post-revision resolution of VBG-related complications like dysphagia and vomiting. We also report improvement in all Obesity related health problems with (75.7%) complete remission rate and (24.3%) partial remission or improvement rate of diabetes mellitus.

Conclusion:

Conversion of VBG to RYGB is a feasible procedure and is associated with acceptable early morbidity rates and reduced lengths of hospitalization. Also it provides acceptable weight loss and improvement in obesity-related health problems.

Keywords: Roux-en-Y gastric bypass, vertical banded gastroplasty, Laparoscopy, Re-operation, Bariatric surgery

O-225

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN AMBULATORY CARE SETTING: RESULTS OF 435 PATIENTS

Enhanced recovery in bariatric surgery

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Introduction:

The increasing demand for bariatric care combined with the current SARS-CoV-2 pandemic leads to a high burden on clinical capacity in hospitals. Bariatric surgery in ambulatory care setting is an effective manner to reduce this burden. Same-day discharge after laparoscopic Roux-en-Y Gastric Bypass (RYGB) was considered feasible for a selected group of patients after performing a pilot study. Afterwards, bariatric surgery in ambulatory setting was implemented as usual care in our hospital. In this cohort study, retrospective data of the first 435 patients were analysed.

Objectives:

The aim of this study was to evaluate safety of same-day discharge in a selected group of patients undergoing laparoscopic RYGB.

Methods:

Patients are eligible for bariatric surgery in ambulatory care setting if they meet the IFSO criteria of morbid obesity, are aged between 18 and 65 years and have a BMI <50 kg/m2, without significant cardiovascular and/or pulmonary diseases or history of large abdominal surgery.

Results:

A total of 435 patients were intended for same-day discharge after LRYGB, of which 403 patients (92.6%) were successfully discharged. Reasons for overnight stay of 33 patients (7.6%) included nausea, decrease in Hemoglobin-level >1.0 mmol/L or the patient not feeling comfortable going home. Of the 403 patients who were successfully discharged, 16 (4.0%) were readmitted in the first 48 hours. The majority (10) of these patients had (one-time only) hematemesis or rectal blood loss and were observed or received medication or blood transfusion (Clavien-Dindo 1-2). None of them were in need of an intervention. Of the other 6 readmitted patients, only 2 (0.5%) had a severe complication (Clavien-Dindo 3b) and were in need of surgical intervention because of anastomotic leakage. They recovered fully.

Conclusion:

There is a high success rate of 92.6% of same-day discharge with our current selection criteria. There is no increase in complications rates compared to bariatric surgery in clinical care setting. Early complications can be detected and treated adequately. Concluding, same-day discharge after LRYGB is a safe and efficient way to reduce the burden on clinical capacity in hospitals.

O-226

LAPAROSCOPIC SLEEVE GASTRECTOMY AS DAY-CASE AMBULATORY SURGERY

Sleeve gastrectomy

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Background:

In recent years we have observed a progressive trend towards increasing complexity in ambulatory surgery. This is due to clinical and economic benefits and soundly supported by safety studies. However, day-case bariatric surgery remains controversial due to conflicting reports and absence of high-quality evidence. Laparoscopic sleeve gastrectomy has been increasingly performed as day-case surgery and proved safe in prospective studies. Nonetheless, it has yet to gain acceptance of the international bariatric surgical community. Since sleeve gastrectomy is currently the most frequently performed bariatric surgery worldwide, the authors describe their experience with a pilot study of day-case sleeve gastrectomy.

Methods:

Obese patients that met simultaneous criteria for bariatric surgery (body mass index (BMI) >40Kg/m2 or BMI>35Kg/m2 with comorbidities) and outpatient surgery were considered eligible. Patients that were proposed to gastric sleeve were further screened for ambulatory sleeve gastrectomy. Exclusion criteria were: previous abdominal surgery, anticoagulant or anti-platelet therapy and uncompensated T2DM or sleep apnea.

Patients were enrolled between April 2021 and April 2022. All patients were instructed to use and record vital signs using a portable device after discharge. Patients were interviewed by phone on the 1st post-operative day (POD) and seen at outpatient clinic at POD 2 and 30. A satisfaction questionnaire was conducted by telephone.

Results:

Twenty-nine patients underwent day-case sleeve gastrectomy. Median age was 46 years old (range 21-66) and 93% were female. Median BMI was 42.1 kg/m2 (range 38.3-54.9) and 93% had obesity-related comorbidities. Mean operative time was 60 minutes (range 33-124). There were no intraoperative surgical/anesthetic complications. Four patient stayed overnight due to intolerance to liquids in the first post-operative hours or pain not fully controlled and were discharged at the following morning and one patient was admitted due to a suspected angina, with a negative workup. No post-operative complications occurred and there were no 30-day readmissions. Global satisfaction was graded 4,93/5, all would choose day-case surgery again and recommend it to other bariatric patients.

Conclusion:

This pilot study supports previous reports that day-case ambulatory sleeve gastrectomy is safe, possible and associated with excellent patient satisfaction.

O-227

LAPAROSCOPIC SLEEVE GASTRECTOMY FOR PATIENTS UNDER 18 YEARS OLD WITH SEVERE OBESITY

Bariatric surgery in children, adolescents and young adults

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Background:

The number of pediatric-adolescent patients with severe obesity is progressively increasing, promoting an important health and financial burden for our societies. This increased prevalence during adolescence is linked directly to alterations in the physical, psychological and social development, rendering young individuals more vulnerable and prone to affective disorders and addictions. Long-term health risks associated with severe obesity in adolescents are numerous. Data on obese adolescent patients under 18 years old undergoing laparoscopic sleeve gastrectomy (LSG) are scarce in the current literature.

Objectives:

To demonstrate that LSG is safe and effective for patients under 18 years old with severe obesity.

Methods:

Prospectively collected data from consecutive patients under 18 years old undergoing LSG were retrospectively analyzed. Patients with more than 1-year follow-up were included in the analysis. Insulin resistance was evaluated by the Homeostasis Model Assessment Value for Insulin-Resistance. Quality of life (QoL) was evaluated using the Short-Form 36 questionnaire.

Results:

106 patients under 18 years old (15–17 years) underwent LSG in our department. Median weight was 132 kg, median body mass index (BMI) 44.6 kg/m2. Twenty-eight patients (26.4%) had obstructive sleep apnea syndrome (OSAS), 8 (7.5%) diabetes, 14 (13.2%) arterial hypertension, 7 (6.6%) dyslipidemia, 33 (31.1%) arthralgia and 4 (3.7%) non-severe gastroesophageal reflux. Median duration of surgery was 64 minutes. One major complication (severe pneumonia) was recorded and mortality was null. Median duration of hospital stay was 4 days. Six, 12 and 24 months after LSG, median BMI decreased significantly to 34.9, 31.2 and 29.8 kg/m2, respectively ($p<0.001$), with a mean percentage of excess weight loss of 77% at 2 years. Obesity-related comorbidities improved at one and two years, with a significant remission of arterial hypertension, OSAS and arthralgia. Insulin resistance recovered in all but one patient after one year. All SF-36 scale scores of QoL improved significantly at one year after surgery.

Conclusion:

LSG is safe and effective for patients under 18 years old, resulting in significant weight loss, comorbidity resolution, marked metabolic and QoL improvement. This treatment option should be considered in selected patients under 18 years old with severe obesity, especially when all conventional therapies have been exhausted.

O-228

LAPAROSCOPIC SLEEVE GASTRECTOMY IN ADOLESCENT SUFFERING OBESITY

Bariatric surgery in the pediatric age group, how young should we go?

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Background:

The prevalence of severe obesity is rising worldwide reaching epidemic proportions, without sparing any age group. The number of pediatric and adolescent patients with severe obesity are progressively increasing, expressing an important health and financial burden for the future of our society. Indeed, the increased prevalence of severe obesity during adolescence is linked directly to alterations in the physical, psychological, and social development, rendering young individuals more vulnerable and prone to affective disorders and addictions.

Methods:

This is a prospective randomized study. The study was held at Menoufia University, General Surgery department and other private centers.
Sixty patients aged 13 to 19 years old with morbid obesity were included in the study and they underwent laparoscopic sleeve gastrectomy and they were followed up for 18 months.

Results:

Their BMI ranged from 42.3±9.8. to 45±6.6. The EWL% was 82 ±7.8. $P<0.001$ There were overall high statistically significant differences as regards waist circumference, absolute weight loss during the follow-up. $P<0.001$ There was statistically significant difference between the different periods of follow-up as regards total cholesterol, triglycerides, LDL cholesterol and blood pressure. $P<0.05$. No reported leak or thromboembolic manifestations in the study.

Conclusion:

LSG seems to be an effective treatment to achieve significant weight loss in adolescents.

O-229

LAPAROSCOPIC SLEEVE GASTRECTOMY: RETROSPECTIVE STUDY OF 101 PATIENTS WITH SIX YEARS FOLLOW-UP

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy (LSG) is still the most frequently performed bariatric surgery in the world. It is considered safe and effective for the treatment of morbid obesity. We present our study of 101 LSG patients.

Methods:

We studied retrospectively 101 patients who underwent LSG between July 2013 and July 2015 in our medical center. Surgical outcome, weight loss, resolution of comorbidities, and complications were collected from outpatient clinic as well as telephone interview.

Results:

The average patient age was 43(65-17 ±) years with a preoperative mean body mass index (BMI) of 42(74.3-33 ±) kg/m2. Of them, 72.0% were female while 32.0% were male. The mean hospital stay was 4.4 (3-20 ±) days. After a mean follow up of 67 (74-60±) months, the mean excess weight loss (EWL%) was 66% ranged from 142% to -16% in some patient , the mean BMI 31 ± kg/m2, the total weight loss (TWL) was 25.25% (50-4%±) , type 2 diabetes mellitus (T2DM) remission rate was 59% and improvement rate 9.3%. Hypertension resolution was 25%, and GERD was reported in 37.6% of patients who were treated with proton pump inhibitors PPI.total 6% of the patients underwent cholecystectomy after the sleeve surgery due to symptomatic cholelithiasis. Total 5 patients needed surgical revision because of weight regain. Hair loss reported in 58.4% of patients.

Conclusions:

LSG still an acceptable bariatric option with high remission rate of comorbidities but with high rate of GERD.

O-229.1

LAPAROSCOPIC VERSUS ROBOTIC REVISIONAL BARIATRIC SURGERY: FIVE YEAR EXPERIENCE

Revisional surgery

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Background:

Current evidence regarding benefits of robotics in bariatric surgery is conflicting. Revisional bariatric surgery is technically challenging and has a higher adverse event rate when compared to primary surgery. For these procedures, the robotic approach may improve outcomes.

Objective:

We aimed to analyze the outcomes of revisional bariatric surgery performed either via laparoscopy or robotic in the last 5 years at our institution.

Methods:

Retrospective chart review of revisional bariatric surgery performed from 2015 to 2020. Cases performed by an open approach were excluded from analysis. Follow-up data was analyzed up to 1 year after surgery.

Results:

We identified 134 revisional bariatric procedures, with 88 performed robotically and 46 performed laparoscopically. There was no significant difference in sex, comorbidities and BMI between the groups. Most common index bariatric surgery was the adjustable gastric band. Most performed revisional procedure was the Roux-en-Y gastric bypass.

The mean procedure time, length of stay and rate of conversion to open procedure were lower in the robotic group [190 ± 54 vs 201 ± 61 min,

2 ± 1 vs 3 ± 4 days, 4.5% vs 8.7%, respectively]. However, this difference was not statistically significant. Rate of 30-day major adverse events (Clavien-Dindo grade III or higher) and readmissions was lower for the robotic group (3.4% vs 6.5% and 6.8% vs 10.9%, respectively), but also not statistically significant. One year after surgery, leak (1) and stricture (1) were documented only in the laparoscopic group.

Conclusion:

There were no statistically significant differences in outcomes between robotic and laparoscopic revisional bariatric surgery. Robotic surgery may improve long-term outcomes, but studies with a larger sample size are necessary.

O-230

LAPAROSCOPY-ASSISTED TRANSGASTRIC ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (LATERCP) AFTER MINI GASTRIC BYPASS SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

Laparoscopic gastric bypass is a popular bariatric procedure performed worldwide. It entails the exclusion of the stomach and duodenum that makes access to the biliary tree through transoral route via endoscopic retrograde cholangiopancreaticographycholangiopancreatography (ERCP) difficult. Patients that undergo bariatric surgery are predisposed to developingcholelithiasis in the post-operative period especially due to the sudden rapid weight loss. Laparoscopic assisted transgastric ERCP (LATERCP) is one of the many procedures that allows access to the biliary tree via the remnant stomach after a one anastomosis gastric bypass (OAGB) that has a high success rate and fewer complications.

Methods:

We report four cases of LATERCP performed for patients that came with biliary obstruction post Laparoscopic OAGB.

Results:

Most of the patients were successfully managed using a minimally invasive approach followed by improvement of their biliary obstruction after which they were safely discharged within a period of 1 to 2 days.

Conclusion:

LATERCP is one of the modalities that allows access to the biliary tree after a gastric bypass. It is a relatively minimally invasive approach that has high success rates.

O-231

LEAK AFTER SLEEVE GASTRECTOMY: UPDATED ALGORITHM OF TREATMENT

Endoscopic and percutaneous interventional procedures

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Introduction:

Laparoscopic sleeve gastrectomy (LSG) is currently the most commonly procedure performed worldwide and still the leak is considered the main limitation. After an initial enthusiasm for stents, the endoscopic treatment evolved including in the current management the septotomy with balloon dilatation and pigtails insertions.

Objectives:

The aim of this study was to evaluate the updated algorithm of endoscopic treatment of leak following LSG including septotomy and balloon dilatation.

Methods:

All consecutive patients treated by endoscopy between January 2018 and March 2020 for leak following LSG were included in the current study. After recording the demographic and the leak history, we have analyzed the number of endoscopic sessions, the duration of treatment and the healing rate of endoscopic treatment for 3 groups: A – small orifice (<10 mm), B – large orifice (> 10 mm) and acute leak and group C with large orifice and late leak.

Results:

A total of 53 patients received endoscopic treatment for leak following LSG. The leaks achieved complete healing after average duration of 3.2 months (range 1– 7 months), 2.3 months for group A, 4.2 months for group B and 3.7 months for group C. The average number of endoscopic procedures was 2.8 (range 2–6) were required for general population: for group A – 2.3 sessions, in group B – 3.4 sessions and in group C – 2.7 sessions. Two out of 53 patients (3.8 %) and required additional treatment outside of the current algorithm, one in group A and another in group B. One patient was transferred for pulmonary abscess and for another patient the leak was considered chronic after a total of 14 months and a laparoscopic fistula-jejunostomy was performed with favorable outcomes.

Conclusions:

Although, there is still no consensus for endoscopic management of leaks after LSG, the benefits of pigtails and the septotomy are undeniable, and it should be included in the armamentarium of any bariatric endoscopic service.

O-232

LEARNING CURVE OF LAPAROSCOPIC SLEEVE GASTRECTOMY PLUS LOOP DUODENOJEJUNOSTOMY

Sleeve plus

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Background:

Although there are many advantages of the pylorus preserving gastrointestinal bypass compared to those of sleeve gastrectomy and Roux-en-Y gastric bypass, it has not been popularized due to the technical difficulties of the procedure.

Objectives:

We have made attempts to overcome these difficulties through standardization of the technique and would like to present our experience of the learning curve for sleeve gastrectomy with duodenojejunostomy (SG DJB).

Methods:

From July 2014 to December 2020, 60 consecutive patients who underwent sleeve gastrectomy plus DJBwere included. The indications for choosing the operation were a body mass index (BMI) of 27.5 kg/m2 or higher and a history of type II diabetes and no history of previous bariatric procedures. The patients were separated into two groups.The first 30 cases were categorized as Group 1 and the remaining 30 cases in Group 2. Indicators for evaluating the learning curve for LRYGB included operation time, complication rate, and length of hospital stay.

Results:

The mean age was higher in Group1 (42 versus 38, p=0.07). The mean body mass index (BMI) was higher in Group 2 (90kg versus 100.6kg, p=0.006, 33.5kg/m2 versus 36.5kg/m2, p=0.014). The mean operation time was 177 minutes in Group 1 and 149 minutes in Group 2 (p=0.001). There were 3 cases of complications in Group 1. There was a case of leakage at the anastomosis which was managed by conversion to Roux-en-Y gastric bypass. The other 2 cases were of postoperative intraabdominal bleeding and both cases were resolved with transfusion alone. The mean hospital stay was 4.2 days in Group 1 and 2.9 days in Group 2 (p=0.05), There were no mortalities.

Conclusion:

The learning curve for sleeve gastrectomy plus DJB can be overcome with 30 cases.

O-233

LENGTH OF THE SMALL BOWEL AND THE BILIOPANCREATIC LIMB IN MGB : TO MEASURE OR NOT TO MEASURE

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

There is actually no consensus about the " optimal " length of the Bilio-Pancreatic Limb (BPL) in Mini Gastric Bypass (MGB), although most authors and MGB surgeons nowadays tend to keep the BPL length as short as 150 cm instead of the previous " standard " of 200 cm.For OAGB the guidelines are well established according to M. Carbajo : ratio common limb length (CL) to total small bowel length (TBL) between 0,4 and 0,43 after measuring the TBL (World Journal of Surgery pp 1-8 Oct 2019)

Objectives:

What are the advantages and disadvantages of the TBL measurement?

Is it mandatory to measure TBL in MGB ?

How accurate is measuring the TBL in laparoscopy?

What is the optimal ratio CL/TBL to reach the ultimate goals of weight loss surgery : excellent weight loss, without malnutrition, excess weight loss and other side effects : diarrhea, reflux...or do we still use a fixed limb length or a tailored one?

Methods:

Literature study: what do we learn from the actual data in the literature concerning measurement of the total bowel length, its accuracy in laparoscopy and the influence on the final outcomes of MGB.

Results:

Recent pro- and retrospective observational studies are in favour of shortening the BPL length with a fixed length of 150 cm .

In superobese with BMI>50 a 200 cm BPL length can be used with or without measuring the TBL , the last being promoted in case of revisional surgery after failed MGB .

No RCT studies concerning the measurement of TBL in MGB were found

The primary results of a recently published report by Komaei and others (Italy) show favourable, promising outcomes of MGB when measuring TBL, confirmation is needed by larger randomized control studies.

Different studies and reports demonstrate an overestimation of the small bowel length in laparoscopy.

Conclusion:

Shortening of the BPL length to 150 cm in MGB shows no statistical significant difference in weight loss compared to 200 cm but with less nutritional deficiencies. Measurement of the total small bowel length (TBL) seems useful not only in optimizing the weight loss but also in avoiding nutritional problems . More studies and randomized trials are needed to confirm these findings. Skills to define the accurate limb lengths should be established.

O-234

LEVEL 1A EVIDENCE DEMONSTRATES A BETTER RISK-EFFECTIVENESS FOR SLEEVE GASTRECTOMY THAN ROUX-Y GASTRIC BYPASS

Registries and quality in bariatric surgery

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Background:

Metabolic surgery is an eminent therapy of not only morbid obesity but also its comorbidities like diabetes, dyslipidemia or nonalcoholic steatohepatitis. The most common operations are sleeve gastrectomy (SG) and Roux-Y-Gastric-Bypass (RYGB). There is a major disagreement which procedure combines efficiency with highest safety. The aim of this meta-analysis with risk-effectiveness analysis was to determine with the best risk-reward outcome.

Methods:

An extensive, systematic literature research up to December 2020 was performed. Only randomized controlled trials (RCTs) with long-term follow up > 5 years were included. The outcomes were weight loss, remission and relapse of comorbidities and safety (complications Clavien-Dindo 3 or higher, reoperation, death). A meta-analysis using a random effects model was used to determine odds ratios (OR) for severe complications, reoperations, diabetes remission, and difference in quality of life. A number needed to treat (NNT) analysis was performed to determine how many operations more are need to be performed to avoid a negative event.

Results:

Five RCT with five-year outcomes were included. 717 patients were included in the RCTs. % BMI loss was higher after RYGB (-8.13% (95%CI 8.9; −7.40)) while there was no significant difference in diabetes remission (RYGB OR 0.73; 95%CI 0.45-1.21; p=0.84). SG had a significantly lower rate of severe complications (Clavien-Dindo ≥III) over five years (OR 0.51; 95%CI 0.32-0.82; p<0.05). Dumping was significantly less common after SG (OR 0.18; 95%CI 0.05-0.71; p<0.05) while postoperative reflux was significantly more common after SG (OR 4.86; 95%CI 2.64 to 8.94; p<0.05). However, reoperation rates over five years were significantly lower after SG (OR 0.55; 95% CI 0.35-0.87; p<0.05). Mortality was 0.8% with 4 deaths after RYGB vs. 2 after SG. Change in quality of life did not differ between SG and RYGB (standardized mean difference -0.11 (−0.24-0.02). To avoid one severe complication after RYGB, 10 more SGs must be performed (NNT 10 (7-19)). Similarly, the NNT to prevent one reoperation was 22 (range 16-50) in favor of SGs. In contrast, 28 patients (range 18-57) need to be operated with a RYGB to achieve one more diabetes remission.

Conclusions:

SG provides a better safety profile over five years. The number of patients harmed by RYGB exceeds the potential benefit on diabetes remission. Further studies should compare cardiovascular endpoints.

O-235

LONG-TERM CHANGES IN BODY COMPOSITION FOLLOWING BARIATRIC SURGERY IN ADOLESCENTS: A SIX-YEAR PROSPECTIVE COHORT STUDY

Bariatric surgery in children, adolescents and young adults

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Background:

The increased prevalence of obesity in adolescents has become a serious worldwide public health concern. While bariatric surgery (BS) is the most effective treatment for weight loss, little is known about the long-term changes in body composition following BS among adolescents.

Objectives:

This prospective cohort study aimed to assess the long-term effect of BS on changes of fat mass (FM) and free fat mass (FFM) among adolescents with morbid obesity. A secondary aim was to determine the retrospective association between physical activity and dietary patterns with changes in body composition.

Methods:

Adolescents who underwent sleeve gastrectomy at a tertiary medical center in Israel were recruited to the study. Body composition was measured using bio-impedance analysis (BIA) at baseline and after an average of six years post-surgery. In addition, anthropometric measurements, self-reported physical activity habits and a 127-items food-frequency questionnaire were assessed at the end of the follow-up.

Results:

Twenty adolescents (70% males, 47.1±7.2 BMI, aged 14 to 19 years) completed 6.1±2.3 years of follow-up. Mean weight loss was 46.7±19.2 kg with excess weight loss of 73.2±22.9%. FM decreased significantly (p=0.001) from 46.6±6.0% to 29.4±8.7%, while FFM significantly increased from 55.8±15.4% to 70.6±8.7% (p= 0.001). Dietary consumption of total protein (r=-0.46, p= 0.04), animal protein (r=-0.50, p= 0.03), total fat, (total fat (r=-0.49, p= 0.03), saturated fat (r= -0.48, p= 0.03), mono-unsaturated fat (r=-0.50, p= 0.02), sugar (r=-0.53, p= 0.03) and vitamin D (r=-0.52, p= 0.02) was negatively associated with FM reduction. Non-exercise physical activity was associated with a greater FM loss (r=0.49, p= 0.03). A lower FFM loss was associated with exercise (r=0.51, p= 0.02) and household activities was associated with a higher FFM loss (r=0.49, p= 0.02). Age, sex or baseline BMI, were not associated with changes in body composition.

Conclusion:

BS in adolescents is an effective strategy for long-term weight loss and body composition improvement. Lifestyle habits, including physical activity and dietary consumption, may influence the beneficial change in body composition.

O-236

LONG-TERM CONTROL OF INSULIN-DEPENDENT TYPE 2 DIABETES AND IMPROVEMENT OF DIABETIC COMPLICATIONS IN PATIENTS WITH OVERWEIGHT AND I° OBESITY AFTER RYGB IS INDEPENDENT OF PREOPERATIVE BETA-CELL FUNCTION

Type 2 diabetes and metabolic surgery

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Background:

Up to present, there are only few data from long-term follow-up after Roux-en-Y gastric bypass (RYGB) in overweight and I° obese patients (<35kg/m2) with long-standing insulin-dependent type 2 diabetes (T2D). It is unclear whether these patients benefit from metabolic surgery regarding improvement of diabetes-associated comorbidities and long-term glycemic control.

Objective:

Our objective was to investigate the long-term impact of RYGB on diabetes-related complications, cardiovascular risk and events as well as glycemic control in overweight and I° obese patients with long-standing, insulin-dependent T2D.

Methods:

Sixteen patients of a single-armed prospective cohort study (DiaSurg1) had follow-up of at least five years. Inclusion criteria were initial body mass index (BMI) between 25 and 35kg/m2, insulin therapy for at least three months with at least 10 units. All patients underwent a RYGB. Diabetes remission was defined as HbA1c ≤7% without medical therapy, nephropathy as GFR <60ml/min/1,73m2 or urine albumin-to-creatinine ratio (uACR) >30mg/g. Beta-cell function was assessed using the HOMA2-calculator. Data were presented as mean ± standard deviation.

Results:

Mean follow-up was 6.4±1.3 years and 31% showed long-term remission of T2D. BMI decreased from 32.6±2.8kg/m2 to 24.9±2.4kg/m2 (p<0.0001). Mean HbA1c decreased from 8.3±1.1% to 7.5±1.2% (p=0.0534). 56% were off insulin after five years. There was no correlation between preoperative beta-cell function and diabetes remission. Cardiovascular risk factors adiponectine and HDL increased significantly (2.5±1.2µg/ml vs. 9.5±6.4µg/ml; p=0.001; 41.44±7.72mg/dl vs. 52.81±14.79mg/dl; p=0.0223) while LDL remained unchanged. 25% had nephropathy preoperatively and all of them had a normal GFR or uACR after five years. However, one patient with normal preoperative renal function developed a pathological uACR. Two out of 16 patients had a cardiovascular event compared to a risk of 25% using risk scores.

Conclusion:

Half of the patients with low-BMI were no longer insulin dependent five years after RYGB. T2D-associated diseases such as nephropathy and cardiovascular risk factors are also effectively improved. Importantly, preoperative beta-cell function does not predict postoperative diabetes remission.

O-237

LONG-TERM EVALUATION OF WEIGHT LOSS AFTER SLEEVE GASTRECTOMY (SG) AND ONE-ANASTOMOSIS GASTRIC BYPASS (OAGB): A COMPARATIVE STUDY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

SG and RYGB are actually the most frequently performed bariatric procedures world-wide. OAGB as a malabsorptive procedure is growing in the recent years. long-term results obtained in terms of weight loss and the effect on comorbidities were compared between SG and OAGB patients

Patients and Methods: We collected our data prospectively from our clinic and formed two groups(Gr) of patients, Gr A: sleeve gastrectomy, Gr B: OAGB. Analyzed variables were baseline and post-operative BMI, excess weight loss (EWL), pre and post-operative comorbidities annually up to 5 years.

Results:

Gr A:between 2002-2017. we have performed 1420 SG operations. 1142 (80%)patients available for follow up. GrB: included 622 OAGB patients, 570 P(91%) available for follow up.. There were no significant differences in age, gender, comorbidities or anthropometric measurements preoperatively between both groups.

We observed significant differences in EWL and post-operative comorbidities up to mean follow up of 3 ys (2-5ys)

BMI post SG decreased from 39kg/m2 to 29 Kg/m2, Post OAGB from 40 kg/m2 to 27 Kg/m2 (p<0.001),with EWL of 79%, and 86% respectively (p<0.001). Diabetes Miletus type II (DM II), Hyperlipidaemia resolved in higher percentage in OAGB, Gr B. Iron deficiency and anaemia incidence was higher in Gr B.

Conclusions:

OAGB achieve superior long-term results on weight loss and comorbidity, decrease of the Hyperlipidaemia and DMII, than SG operation.

O-238

LONG-TERM NAUSEA AFTER BARIATRIC SURGERY: COMPARING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS, BILIOPANCREATIC DIVERSION, AND SLEEVE GASTRECTOMY

Long-term results (> 10 years)

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Introduction:

Self-reported nausea and vomiting is one of the most frequently addressed long-term adverse effects of bariatric surgery. Operation-specific outcomes indicate that they are most frequent with patients having undergone gastric resections. Literature comparing the long-term incidence of nausea and vomiting between different types of bariatric operations is still lacking.

Objectives:

Our retrospective study, aims to compare the incidence of self-reported nausea and vomiting, among patients that underwent Roux-en-Y Gastric Bypass (RYGB), Long-Limb RYGB with gastric fundus excision (LL-RYGB), Long-Limb Biliopancreatic Diversion (LL-BPD), Sleeve Gastrectomy (SG) and Sleeve Gastrectomy as Revision of RYGB.

Methods:

We included all consecutive patients with complete, 10-year follow-up records, operated within our institution. The comparison was based on results of self-reporting surveys, using 4-point Likert scales.

Results:

A total of 490 patients were included in our study. 322 patients underwent GBRY, 34 underwent GBRY with gastric fundus excision, 58 underwent BPD-LL, 47 underwent SG and 29 underwent SG as a revision of RYGB. A total of 490 patients were included in our study. Self-reported nausea was significantly associated with the type of bariatric operation that patients underwent ($p < 0.001$). The majority of the patients reported little to no feelings of nausea 10 years postoperatively. RYGB and long-limb BPD patients reported no nausea in 66.5% and 84.5% of the instances respectively. Vomiting also differed between patients of different bariatric surgical approaches.
Long-limb BPD patients reported no vomiting at 10-years after surgery in 84.5% of the patients. In addition, patients within the RYGB as a redo of previous SG group reported no vomiting in 72.4% of the cases.

Conclusions:

Most patients undergoing bariatric surgery report little to no long-term Nausea and Vomiting. SG and LL-RYGB with gastric fundus excision can be associated with long-term nausea and vomiting, compared to other types of surgery.

Table 1: Outcomes on Nausea and Vomiting at 10 years post bariatric surgery

	Nausea					
Nausea Grading	GBRY	LAP – RYGB – LL with gastric fundus extraction	BPD – LL	LAP – Sleeve Gastrectomy	LAP SG – Redo – LAP RYGB	Total
0	214 (66.5)	16 (47.1)	49 (84.5)	21 (44.7)	21 (72.4)	321 (65.5)
1	97 (30.1)	13 (38.2)	9 (15.5)	23 (48.9)	7 (24.1)	149 (30.4)
2	10 (3.1)	2 (5.9)	0 (0.0)	3 (6.4)	0 (0.0)	15 (3.1)
3	1 (0.3)	3 (8.8)	0 (0.0)	0 (0.0)	1 (3.4)	5 (1.0)
Total	322	34	58	47	29	490
	Vomiting					
Vomiting Grading	BPD with GBRY	LAP – RYGB – LL with gastric fundus extraction	BPD – LL	LAP – Sleeve Gastrectomy	LAP SG – Redo – LAP RYGB	Total
0	209 (64.9)	13 (38.2)	49 (84.5)	21 (44.7)	21 (72.4)	313 (63.9)
1	98 (30.4)	14 (41.2)	9 (15.5)	24 (51.1)	7 (24.1)	152 (31.0)
2	14 (4.3)	3 (8.8)	0 (0.0)	2 (4.3)	0 (0.0)	19 (3.9)
3	1 (0.3)	4 (11.8)	0 (0.0)	0 (0.0)	1 (3.4)	6 (1.2)
Total	322 (100)	34 (100)	58 (100)	47 (100)	29 (100)	490 (100)

O-239

LONG-TERM NUTRITIONAL DISORDERS AFTER GASTRIC BYPASS: A RETROSPECTIVE OBSERVATIONAL STUDY

Long term results (> 10 years)

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Background:

Roux-n-Y gastric bypass (RYGB) leads to multiple nutritional disorders that must be monitored and treated. Short-term nutritional disorders are well described, but long-term data is not so widely available. The aim of this study is to describe the long-term (>10 years) nutritional disorders after RYGB.

Methods:

We performed a retrospective analysis of prospectively collected data of 345 morbidly obese patients who underwent primary both laparoscopic and open RYGB with at least 10 years follow-up after surgery. Primary outcomes were iron, B12 vitamin, lipid profile, protein and calcium metabolism disorders. Secondary outcome was compliance of the patients to supplementary nutritional treatment.

Results:

345 patients with at least 10 years follow-up were included, 77.7% female with a mean age of 43.71 ± 10.09 years. Anemia (Hemoglobin <12 g/dL) was present in 15.7% of patients and iron deficiency (iron <50 pg/dL) in 30.1%. Iron supplementation was complied in 35.8% of patients and B12 supplementation in 70.7%. Nearly half of the patients with anemia and hyposideremia were not properly supplemented with iron. Compared to preoperative values, total Hemoglobin levels were reduced in 0.169g/dL (range -4.9 to 3.8).

Lipid profile was altered in 24.7% (LDL >130 mg/dL) and 2.5% of hypertriglyceridemia (Triglycerides >200 mg/dL). In comparison to preoperative values, Total cholesterol was reduced in -5.99mg/dL (range -146 to 105) and tryglycerides in -41.36mg/dL (-293 to 76).

Hypoalbuminemia (Albumin <3.4 g/dL) was detected in 5% (7 patients). Primary hyperparathyroidism (PTH >100 pg/dL) in 36.7% (58 patients). Calcium supplementation was taken 39.7% and D vitamin supplementation in 66.1%. 14 patients (24.1%) with elevated PTH were not taking any supplementation.

Discussion:

Long-term nutritional disorders are present in at least 76% of patients after RYGB. In an overall view less than 10% of those patients did not take any supplementation. Long-life monitoring must be carried out in RYGB patients.

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O-240

LONG-TERM OUTCOMES OF REVISIONAL SURGERY AFTER SLEEVE GASTRECTOMY: A COMPARATIVE ANALYSIS BETWEEN SADI AND ROUX EN-Y GASTRIC BYPASS.

SADIs

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Background:

Nowadays, laparoscopic sleeve gastrectomy (LSG) is one of the most common primary bariatric procedure. Although, long-term, up to 20% of patients may need revisional surgery. There is currently no consensus on which revisional procedure is best after an initial LSG.

Objectives:

We aimed to compare the efficacy and safety between single-anastomosis duodeno-ileal bypass (SADI) versus Roux-en-Y gastric bypass (RYGB) as a revisional procedure for LSG.

Methods:

Data from all patients who underwent post-LSG conversion to either a RYGB or a SADI at our institution between January 2010 and May 2018 was retrospectively analyzed, concerning data on indications for secondary surgery, weight loss, and complications. Included were all patients with > 1-year follow-up who were operated due to IWL, weight regain or gastroesophageal reflux symptoms.

Results:

79 patients underwent secondary surgery after LSG; 50 SADI and 29 LRYGB, respectively. Median interval between SG and revision was 26. At a median of 58 months, follow-up rate was 72% for the study cohort. Main indications for secondary surgery were inadequate weight loss or regain (n= 67[85%]) and gastroesophageal reflux symptoms (n= 12[15%]). SADI resulted in the largest excess weight loss of 84,23% (18,31) followed by RYGB 75,57 (22,50); (p=0,156). Likewise, the median total weight loss was higher for SADIS (41,65% [32,54-50,76]) compared to RYGB (32,35% [21,61-43,09]) (p=0,003) after 60 months. All comorbidities improved. There were no significant differences in length of stay, adverse events and improvement of comorbidities between the 2 groups.

Conclusions:

Conversion from SG to RYGB or SADI is an efficient and effective treatment for patients with inadequate weight loss. Conversion to RYGB is preferred in cases of dysphagia or gastroesophageal reflux disease. In cases of weight regain or insufficient weight loss after LSG, patients had better weight loss with SADI, and maintaining weight loss over the years, unlike the RYGB.

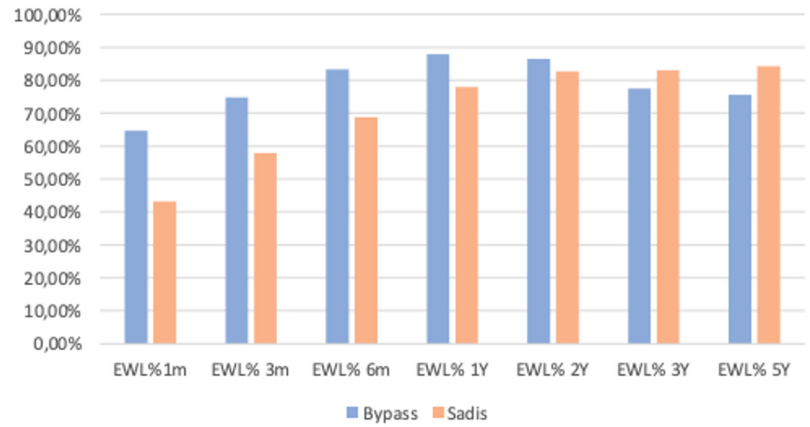

Table. 1 Excess weight loss outcomes after revisional surgery (RYGB vs SADI) 1,3,6 months and 1,3,5 years.

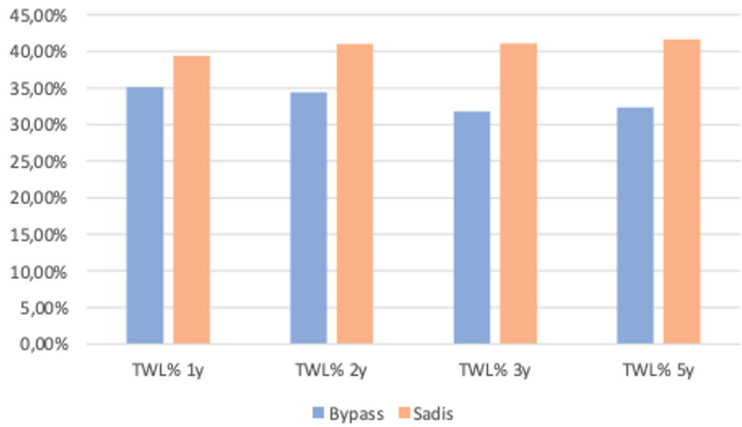

Table. 2. Total weight loss outcomes after revisional surgery (RYGB vs SADI) 1,3,6 months and 1,3,5 years.

O-241

LONG-TERM PHASE ANGLE CHANGES IN A SAMPLE OF GREEK PATIENTS UNDERGOING BARIATRIC SURGERY

Basic science and research in bariatric surgery

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Introductions:

Bioelectrical impedance analysis (BIA) is an indirect method for the estimation of body composition through the measurement of two bioelectrical parameters: body resistance and reactance. BIA enables the determination of phase angle (PA), which seems to be a very promising indicator of nutrition adequacy.

Objectives:

The aim of the present study was to evaluate phase angle changes in the acute (3 months) and relatively stable (6 months) phases of weight loss after bariatric surgery.

Methods:

Between February 2019 and February 2020, 42 patients (28 female) underwent bariatric surgery (3 mini gastric bypass and 39 sleeve gastrectomy). All patients were evaluated by Bioelectrical impedance analysis (BIA) the day before the operation (baseline) and 3 and 6 months after the procedure.

Results:

Participants' mean age was 37.4 years (± 10,2 years) and the average length of hospital stay was 2.6 days (±2,4 days). The mean PA was 6.1° (± 1.2°) preoperatively and correlated significant with Hand Grip Strength (Pearson r = 0,282, p=0.013) and serum albumin levels (Pearson r = 0,215, p=0.022). Mean PA values decreased by 0.5° (± 0.3 s) in the first trimester following bariatric surgery and by 0.9 (± 0.5 degrees) without being statistically significant. There was no significant difference in values reductions according to gender or surgery type.

Conclusion:

In a sample of patients undergoing bariatric surgery, PA levels were slightly but not significantly reduced after surgery.

O-242

LONG-TERM RESULTS OF CONVERTED GASTRIC BANDS TO OMEGA GASTRIC BYPASS

Revisional surgery

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Objective:

Laparoscopic adjustable gastric banding (LAGB) is becoming less favorable bariatric operation due to insufficient weight loss and intolerance. Conversion to other bariatric procedure is increasing, omega gastric bypass (OGB) is becoming a good optional revisional procedure after failed LAGB. The aim of this study was to evaluate the safety, feasibility and results of the conversion to omega gastric bypass (OGB).

Methods:

We have observed the results of the converted gastric band patients to OGB in our clinic for period 2009-2018. The excluded biliary limb was 2/5th of the entire length of small bowel. All procedures were performed laparoscopically. We collected our data prospectively. Recorded data preoperatively included age, sex, comorbidity, body mass index (BMI), Postoperatively recorded data included, intra and post-operative morbidity and mortality, percentage of excess weight loss(%EWL). Resolution of co-morbidities like Diabetes mellitus (DM) type II, Hyperlipidemia and arterial Hypertension were recorded as well.

Results:

Between 2002-2018 we have performed1245 gastric band operations, 1004 (80.6%) patients were available for follow between 1-15Ys. 380 GB (38%) were removed and of them 166 cases (16.5%) were converted to other bariatric procedure. 124 (12.3%) patients(P) had conversion to omega gastric bypass mean time of FU 3ys (2-5 ys), Mean BMI 38,4kg/m2 by conversion and decreased to 28.2kg/m2.1 patient had anastomotic ulcer perforation, 4 P endoscopic anastomotic ulcers, 4 cases hypoproteinemia, 3 P postop. bleeding, 20P iron deficiency, 10P gastroesophageal reflux disease, 85% good satisfaction. DM type II was present in 48 (38%) cases, resolved in 83% of cases and improved in the remaining. Hypertension and Hyperlipidemia were present preop. in 46 P (37%), 56 P (45%) respectively and resolved in 64% and 88% of cases respectively.

Conclusion:

Conversion of LAGB to Omega gastric bypass is technically feasible and leads to good satisfaction regarding weight loss, decrease of co-morbidity and side effects with low incidence of complications in follow up to 5 ys.

O-243

LONG-TERM RESULTS OF ONE-ANASTOMOSIS GASTRIC BYPASS. A SINGLE CENTER EXPERIENCE WITH A MINIMUM FOLLOW-UP OF TEN YEARS.

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Purpose:
The purpose of this study was to evaluate the efficacy and safety of the OAGB at least 10 years after surgery.

Methods:
We retrospectively reviewed our prospectively collected data on consecutive morbid patients with obesity receiving OAGB from January 2005 to December 2007.

Results:
A total of 385 patients met the inclusion criteria. The mean follow-up was 149 months. Of all patients, 52% underwent OAGB as a primary procedure and 48% as a revisional procedure. At the 10-year follow-up, the mean Body Mass Index (BMI) was 30.7 □ 11.8, the mean %TWL was 33.4 □ 10.6, and the mean %EWL was 64.1 □ 24.6. We didn't find a significant statistical difference in terms of weight loss between primary OAGB and secondary OAGB. In total, 43% of patients achieved a %EWL greater than 75%, while 29% of the patients had an EWL% that was below 50%. All of the comorbidities related to obesity showed a high improvement or fully resolved. Early complications occurred in 9 patients (2.3%), while the overall rate of late complications was 17.1%. Nineteen patients (4.9%) developed an ulcer at the gastrojejunal anastomosis level, nine patients (2.3%) were re-hospitalized for major malnutrition, thirty-eight patients (9.8%) showed a postoperative biliary reflux, and five patients (2.7%) experienced severe anemia, which required several hospitalizations for iron I.V. supplementation.

Conclusion:

According to results of the present study, we believe that OAGB has shown to be a technique with a reasonable balance between long term efficacy and undesirable sequelae.

O-244

LONG-TERM RESULTS OF PRIMARY SADI-S

SADIs

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Introduction:

SADI-S was initiated in 2007 as a simplification of the Roux-en-Y duodenal switch. Initially the common limb was 200 m, but after some nutritional issues, in 2009 it was changed to 250 cm, and for selected patients 300 m.

Objective:

To present the long term results of a cohort of patients consecutively submitted to SADI-S with more than 5 years follow up.

Patients:

199 patients were submitted to SADI-S between May 2007 and December 2015. 35 patients had a previous weight loss surgery and 164 were submitted to SADI-S as a primary operation, and constitute the study group. Mean age was 47 years, mean weight 124 kg and mean BMI 45,8 kg/m2. There were 99 women and 65 men. Type 2 diabetes was present in 101 cases of which 42 (41,5 %) were on insulin therapy; arterial hypertension was present in 91 cases, obstructive apnea in 81 and dyslipidemia in 118.

Method:

SADI-S was performed laparoscopically with 4 portals. The sleeve gastrectomy was performed over a 54 French bougie. The duodenum was dissected as far as possible preserving always the right gastric vessels. The duodeno-ileal anastomosis was hand sewn in 58 cases and mechanical with a 30 mm linear stapler in 106. The limb length was 200 cm in 50 patients, 250 cm in 99 and 300 cm in 15.

Results:

There was a gastric leak in 1 patients and an anastomotic leak in 2; only in one case re-operation was required. There were no deaths. Two patients were reoperated for an incarcerated ventral hernia (one trocar-site, one epigastric) and 2 patients were submitted to revisional laparoscopy for peritoneal bleeding.

Follow up was 84% at 5 years and 75% at 10 years. EWL and TWL were 87,8% and 38,8% at 5 years, and 80% and 34% at 10 years respectively. 12 patients needed revisional surgery for hypoproteinemia, mostly in the 200 cm group. One patient was submitted to re-sleeve for insufficient weight loss. At 5 years 76% of diabetics were off therapy and at 10 years 61% of them, with only 11% requiring low doses of insulin. At 5 years 26% of the patients still had arterial hypertension, and 14% at 10 years. Obstructive apnea was maintained in only 2% of the patients at 10 years. 72% of the patients had criteria of dyslipidemia preoperatively, 35% at 5 years and 53% at 10 years. The mean number of bowel movements was 2,4 per day at 5 years and 2,1 at 10 years.

Conclusions:

SADI-S offers a good weight loss and comorbidities resolution rate to patients with morbid obesity. The low rate of c

O-245

LOW IMPACT LAPAROSCOPIC SLEEVE GASTRECTOMY: TECHNIQUE AND PRELIMINARY RESULTS

Emergent technology, new nonstandard and bariatric surgery

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Background:

Low Impact Laparoscopy (LIL) is an innovative surgical procedure that combines several perioperative optimizations aiming to reduce aggressiveness of surgical act. It consists of reducing the size or number of surgical incisions, using low and stable pneumoperitoneum pressure, and optimizing perioperative anesthesia. We applied this concept for sleeve gastrectomy (SG) using a single-incision laparoscopic surgery (SILS) technique associated to low and stable pneumoperitoneum of 12mmHg (instead of 15-16mmHg non-stable pneumoperitoneum usually used).

Objectives:

To describe the technique of LIL sleeve gastrectomy (LIL-SG) and report preliminary results.

Methods:

LIL-SG starts by introducing a single-port through a 3 cm left hypochondrium or transumbilical incision. The AirSeal® system (AB Medica, Mery-sur-Cher, France) is used to provide stable pneumoperitoneum of 12mmHg. Anesthetic optimization is provided by anesthetic infiltration of the incision site before insufflation and peritoneal infiltration before exsufflation. Data from consecutive patients who underwent LIL-SG in our department after September 2019 were prospectively collected and analyzed. A preliminary comparison was made using data from patients who underwent conventional SILS SG.

Results:

Thirty patients underwent LIL-SG (mean age: 37.1 years; mean BMI: 40.5Kg/m2). A pneumoperitoneum of 12mmHg was used throughout the whole procedure in 21 patients (70%). It was increased to 14mmHg in 9 patients (30%) for an average of 12.7 minutes due difficulties in oesogastric junction exposure, gastrolysis or stapling. No intraoperative complications, conversion or addition of trocars were observed. Mean operative time was 61 minutes. Post-operative care was uneventful for all patients but one (pulmonary infection). Average theoretical length of hospital stay (Chung score) was 2.2 days. Preliminary comparison with 30 patients who underwent conventional SILS SG with similar preoperative data showed that LIL-SG reduces significantly postoperative pain and opioid painkillers usage, as well as length of hospital stay (p=NS).

Conclusion:

LIL-SG is feasible and safe with good results regarding perioperative morbidity. Our preliminary results show that LIL-SG appears to decrease postoperative pain, postoperative opioid painkiller usage and allows better recovery in severely obese patients undergoing laparoscopic SG.

O-246

LOW RATES OF DISTAL ESOPHAGITIS & BARRETT'S ESOPHAGUS AFTER SLEEVE GASTRECTOMY

Sleeve gastrectomy

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Background:

Recent studies indicated a high incidence of distal esophagitis (DE) and Barrett's esophagus (BE) after sleeve gastrectomy (SG). The most common side effect following SG is persistent GERD symptoms. Over the past 5 years an observation surrounding sleeve gastrectomy has been the potential for developing distal esophagitis, Barrett's esophagus and progression to adenocarcinoma. This concern regarding Barrett's esophagus has increased in controversy. We report on our experience with EGD and the incidence of distal esophagitis and Barrett's esophagus in patients presenting for routine esophagogastroduodenoscopy (EGD) following sleeve gastrectomy.

Objectives:

The endoscopic findings of 113 patients who underwent routine EGD following SG were reviewed to assess the incidence of post-operative DE and BE in this group of patients.

Methods:

A retrospective review of all SG performed from 2012 - 2020. SG was performed by 2 bariatric surgeons in a community hospital setting. All patients undergoing SG were instructed to undergo routine post-operative EGD at one year, two years and three years after SG. We report on those patients who returned for routine postoperative EGD following SG. Inclusion criteria was postoperative surveillance with Esophagogastroduodenoscopy (EGD) following sleeve gastrectomy. Primary outcomes measured were post-operative prevalence of DE & BE.

Results:

113 patients were included in the study with a Mean follow up time to EGD 14 months, Max 59 months, Min 1 month. Average BMIi preoperatively was 43.4. Mean BMI at the time of first EGD was 30.2. Female to male ratio was 4:1. Age range was 20 to 70 years. Biopsy proven esophagitis was present in 14/113 (12.3%). There were no cases of Barrett's esophagus discovered on biopsy in this group.

Conclusions:

The incidence of both DE and BE was low in this cohort. These findings contrast with a higher incidence of both DE and BE reported in other studies. The SG does not have a standardized operative approach. Differences in surgical technique may account for differences in rates of DE and BE reported in other series. We recommend continued annual endoscopic surveillance in patients undergoing sleeve gastrectomy however our findings suggest that the rate of DE and BE may be lower than reported in other series and challenges the findings that sleeve gastrectomy leads to early formation of BE in a significant number of patients.

O-247

LOW-CALORIE CLEAR FLUID DIET BEFORE SLEEVE GASTRECTOMY: DOES IT ADD ANY BENEFIT TO THE OUTCOMES, OR IS IT JUST AN ADDED DISCOMFORT TO PATIENTS?

Nutrition, eating behaviors before and after bariatric surgery

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Background:

Laparoscopic sleeve gastrectomy LSG is the most commonly performed bariatric surgery in the world. However, the effect of preoperative eating patterns and weight loss on postoperative outcomes remain largely unknown and mostly controversial.

Objectives:

The aim of this study is to compare the impact of preoperative diet (clear fluid diet (CFD) vs. regular diet (RD)) on postoperative weight loss at 3, 6, and 12 months after LSG.

Materials and method:

A retrospective comparative study of patients who underwent LSG for morbid obesity between 2017 and 2019 at a single institution. The patients were divided into two groups according to the preoperative diet: CFD and RD. Preoperative demographics and comorbidities were collected, as well as, postoperative weight loss at 3, 6, and 12 months.

Results:

A total of 97 patients were included in the study; 45(46.4%) patients in the CFD group and 52(53.6%) patients in the RD group. Overall, 81(83.5%) were females, and mean preoperative body mass index (BMI) was 46.5 ± 6.5 kg/m2. Mean preoperative excess weight loss percentage (%EWL) for the CFD group was 4.2% ± 6.7%, while the RD group showed a weight gain -5.3% ± 9.0% (p≤0.001). No difference in the %EWL between the two groups at 3 months (p=0.201). However, %EWL at 6 and 12 months was better in the RD group (p=0.025 and p=0.007, respectively) Table 1. Additionally, there was no correlation between preoperative %EWL and postoperative %EWL in both groups.

Conclusions:

Patients in the RD group had a better %EWL at 6 and 12 months postoperatively compared to the CFD group. However, there was no correlation between preoperative %EWL and postoperative %EWL in our analysis.

Table 2: %EWL at 3, 6 and 12 months

	CFD group (n=45)	RD group (n=52)	P value
[a]%EWL 3 months	38.8% ± 11.9%	47.5% ± 43.9%	0.201
[a]%EWL 6 months	52.5% ± 19.5%	71.6% ± 52.4%	0.025
[a]%EWL 1 year	62.3% ± 13.4%	82.8% ± 48.6%	0.007

[a]All data expressed as mean ± SD

O-248

LUMINAL COATING OF INTESTINES: A POTENTIAL NOVEL ANTI-OBESITY THERAPY FOR OBESITY-ASSOCIATED TYPE 2 DIABETES

Emergent technology, new nonstandard and bariatric surgery

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Introduction & Objectives:

The worsening obesity epidemic has driven a parallel increase in prevalence of type-2 diabetes (T2D) affecting 11.3% of the adult US population. Roux-en-Y gastric bypass surgery (RYGB) is the golden standard treatment for obesity-related T2D, however many patients are reluctant to proceed due to its invasive nature, risks and permanent change to GI anatomy. We have previously described a novel oral formulation named LuCI (Luminal Coating of the Intestine), that provides a transient coating of the proximal bowel and mimics the effects of RYGB. Herein, we aim to investigate outcome of chronic LuCI administration on weight and glucose homeostasis.

Methods:

Sprague-Dawley rats on high fat diet received 5 weeks of daily LuCI or normal saline as control (n = 8/group). Daily weights and glucose tolerance were monitored throughout the experiment. At 5 weeks, systemic blood was sampled through a surgically placed jugular vein catheter, before and during an intestinal glucose bolus, to investigate changes in key hormones involved in glucose metabolism. To elucidate the effects of LuCI on nutrient absorption, fecal output and food intake were measured simultaneously with the analysis of homogenized stool samples performed using bomb calorimetry.

Results:

At 5 weeks, LuCI animals weighted 8.3% less and had lower fasting glucose levels than Controls (77.6 +- 3.8 mg/dl vs. 99.1 +- 2.7 mg/dl, P<0.001). LuCI-treated animals had lower baseline insulin and HOMA-IR. Post-prandially, LuCI group had increased GLP-1 and GIP secretion following a glucose challenge. Serum lipid analysis revealed lowered LDL levels suggesting the potential for reducing the cardiovascular risk. We then investigated whether LuCI's effect on proximal bowel exclusion may play a role in energy consumption. We suggest that LuCI reduces calorie absorption in the gut with no difference in calorie consumption.

Conclusion:

In summary, we have demonstrated that LuCI, an orally administered intestine barrier coating, can ameliorate weight gain and improve insulin sensitivity in a rodent DIO model. Since LuCI's effect is transient and without systemic absorption, LuCI has the potential to be beneficial for overweight or obese T2D patients. Future studies should consider LuCI as a new potential therapeutic strategy to limit weight gain and prevent the development of T2D.

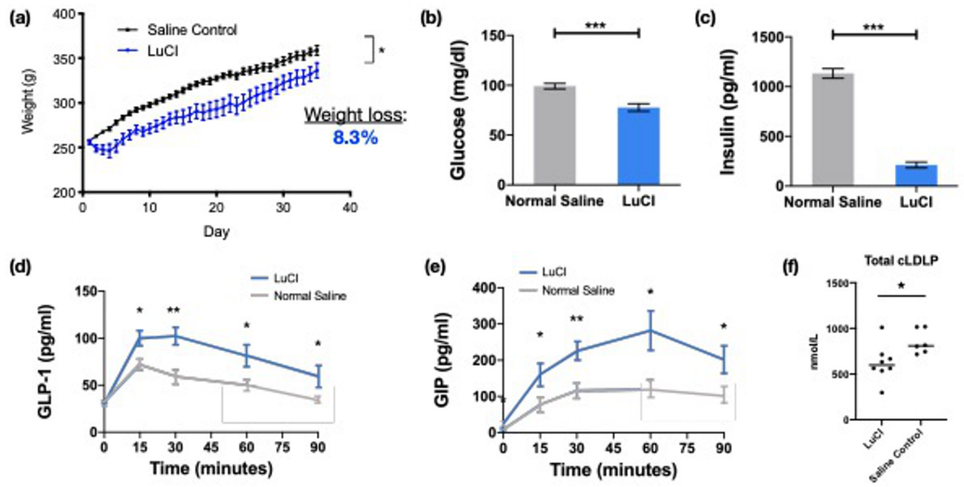

Figure 2. Metabolic benefits of daily administration of LuCI in a rat model. (a) Weight over 35 days of LuCI and vehicle oral gavage. (b) Mean fasting glucose levels 5 weeks after beginning of treatment. (c) Systemic fasting insulin level 5 weeks after beginning of treatment. (d-e) Circulating plasma hormone levels measured 5 weeks using standard oral glucose tolerance test following daily gavage of LuCI or normal saline. (d) GLP-1 levels at time points indicated, (e) GIP levels at time points indicated. (f) Total cLDL particle counts after 5 weeks after beginning of treatment.

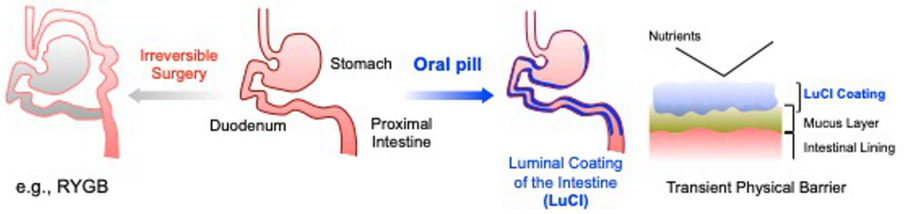

Figure 1. Representative cartoon demonstrating the oral administration luminal coating of intestine as an alternative of highly invasive and irreversible bariatric surgeries. The coating is designed to form a transient physical barrier on mucosa against substances such as nutrients, acids, and enzymes, and a drug delivery platform that can deliver therapeutics (e.g. protein) protected from stomach acid and digestive enzymes.

O-249

MANAGEMENT OF GALLSTONE DISEASE PRIOR AND AFTER METABOLIC SURGERY: A SINGLE CENTER OBSERVATIONAL TRIAL

Basic science and research in bariatric surgery

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Background:

Rapid weight loss after bariatric surgery is a risk factor for gallstone formation. There are different strategies regarding its management in bariatric patients: prophylactic cholecystectomy (CCE) in all patients, concomitant CCE only in symptomatic patients or in all patients with known gallstones. We present the safety and long-term results of the latter concept.

Methods:

Retrospective single center analysis of a prospective database on perioperative and long-term results of patients with laparoscopic Roux-en-Y gastric bypass (LRYGB) or laparoscopic sleeve gastrectomy (LSG) over a 14 year period. The minimal follow-up was 24 months. Concomitant CCE was intended on all patients with gallstones detected by preoperative sonography.

Results:

After the exclusion of patients with a history of a prior CCE (11.6%) a total of 1047 patients (68.5% LRYGB, 31.5% LSG) were included in the final analysis. Preoperative gallbladder pathology was detected in 20.8% of patients and thereof 98.2% received a concomitant CCE. The additional procedure prolonged the average operation time by 38 min. (n.s.) and did not increase the complication rate compared to bariatric procedure without CCE (3.7% vs 5.6%, p=0.31). No complication was directly linked to the CCE. Postoperative symptomatic gallbladder disease was observed in 9.3% of patients (LRYB 7.0% vs LSG 2.3%, p=0.13), 20.8% of those initially presented with a complication.

Conclusion:

The concept of concomitant CCE in primary bariatric patients with gallstones was feasible and safe. Nevertheless, 9.3% primary gallstone free patients developed postoperative symptomatic gallbladder disease and required subsequent CCE despite routine Ursodeoxycholic acid (UDCA) prophylaxis.

O-250

MANAGEMENT OF GASTRIC INTESTINAL METAPLASIA IN PATIENTS UNDERGOING ROUTINE ENDOSCOPY BEFORE BARIATRIC SURGERY

The recommendation and role of endoscopy before bariatric surgery

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Introduction:

Routine preoperative endoscopic evaluation for bariatric surgery is controversial; however, for those patients that undergo endoscopy, some findings may alter surgical management. Gastric intestinal metaplasia (GIM) is found in up to 11.7% of the general population. When associated with determined risk factors, GIM has a risk of progressing to gastric cancer. The aim of this study was to assess the prevalence of GIM and possible associated factors in a population undergoing bariatric surgery.

Methods:

We performed a retrospective chart review of patients that underwent primary sleeve gastrectomy or Roux-en-Y gastric bypass at our institution between January 2016 and June 2020. Baseline characteristics and preoperative endoscopic findings were obtained from all patients. Histopathological analysis of the sleeve gastrectomy specimen was also reviewed.

Results:

A total of 753 patients were identified. Mean age was 49.0 (13.1) years and body mass index was 43.9 (7.1) kg/m2. Procedures consisted of 411 (54.6%) gastric bypass and 342 (45.4%) sleeve gastrectomy. Esophagitis was found in 16% and Barrett's esophagus in 5% of patients. Preoperative gastric biopsy identified H. pylori in 6.4%, and GIM in 2.7% of cases. Regression analysis found an association of Barrett's esophagus (OR 4.60, 95% CI 1.25-16.82) and increased age (OR 1.05, 95% CI 1.01-1.09) with preoperative finding of GIM. Histopathological analysis of the sleeve gastrectomy specimen identified H. pylori in 1.8% and GIM in 0.9% cases.

Conclusion:

Increased age and Barrett's esophagus were associated with GIM in preoperative gastric biopsy. This association emphasizes the importance of diligent examination during preoperative endoscopy.

O-251

MANAGEMENT OF SLIPPED SLEEVE: ADVANTAGES OF HIATOPLASTY COMBINED WITH SINGLE ANASTOMOSIS STOMACH–ILEAL BYPASS

GERD and bariatric surgery

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Introduction:

The morphological and structural restoration of the esophagocardial transition in the context of reflux surgery has been evaluated as the definite solution to the gastroesophageal reflux disease (GERD) for decades. The implied recurrence rate correlates with body weight which is why we do not primarily perform hiatoplasty in combination with sleeve gastrectomy for morbid obese patients. Long term studies of patients after sleeve gastrectomy in super obesity show a symptomatic hiatus hernia in combination with de-novo-reflux or a clinical deterioration of pre-existing GERD symptoms related to a slipped sleeve as morphological correlative to GERD at 30% of the patients.

Objectives:

With regard to the SASI bypass method as establishing bariatric redo procedure especially with ongoing GERD symptoms after sleeve gastrectomy, we wanted to validate the relation of redo
SASI bypass in combination with hiatoplasty and improvement of GERD symptoms.

Methods:

We performed a total of 16 simultaneous surgeries from 2/2020 to 2/2021. The hiatus hernia in combination with a thoracic dissociated gastric sleeve was diagnosed by cinematography, gastroscopy, manometry and pH-metry and re-evaluated after 12 months. The RSI score was used clinically. Average weight loss with an initial BMI of 54.7 kg/m2 accounted an average decrease of
14 BMI points over the long term until the redo. The mobilization was carried far beyond the thoracic level. The resection of the hernial sac was performed regularly. Stabilization with composite mesh was deliberately avoided. The SASI Bypass was performed with an anastomosis measuring 3cm and 300 cm common channel.

Results:

13 patients were completely symptom-free after one year. The average RSI score fell from 9 to 3. The average further weight loss after one year was 7 BMI points. The average operating time was 75 minutes. We performed a re-laparoscopy on one patient due to a stenosis of the biliary limb. The courses of the other patients were completely free of complications with an average hospital stay of 2 days.

Conclusion:

The combination of hiatoplasty and the SASI bypass leads to immediate symptom control of the reflux symptoms and to a further relevant weight loss in primary morbid obesity at low morbidity.
The restoration of the anatomical structures at the hiatus as well as the conversion of the high pressure into a low-pressure system justify the success of the operation.

O-252

MANAGING THE ENDOSCOPIC GASTRIC BALLOON IN PRIVATE PRACTICE FROM A NURSING AND PATIENT MANAGEMENT PERSPECTIVE IN A SURGICAL PRACTICE.

Integrated health

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Background:

The Endoscopic intra gastric balloon is a soft silicone device that is inserted into the stomach without surgery that creates a feeling of satiety. When used with a predominately surgical practice the ORBERATM device has multiple purposes including bridging the morbidly obese to bariatric surgery, and as a sole intervention alternative to surgery.

Objective:

To explore the importance of the Multidisciplinary Team in improving patient outcomes and long term management. To ensure client understanding of the importance of pre and post operative (insertion) care thus reducing the risk of dehydration/complications and possibility of readmission post insertion, and reducing the possibility of weight regain post extraction

Method:

This is a retrospective cohort study of 36 patients who underwent implantation using the ORBERATM IGB from November 2016 to May 2019. The patients were operated on by a single bariatric surgeon and managed within a bariatric multidisciplinary practice. Pre insertion education included medication recommendations. Education post insertion included advice on vomiting, nausea and stomach cramping. Patient access to nursing staff post insertion was implemented as a preventive measure for dehydration and readmission.

Results:

In a cohort of 28 females and 8 males with a mean preoperative weight and BMI of 95.1± 17.18 kg and 35.0 ± 5.3 kg/m2 the mean postoperative weight and BMI at the time of balloon removal was 87.1 ± 17.0 kg and 32.2 kg/m2. Mean %EWL and %TWL was 37.85 ± 4.9% and 9.5 ± 6.5% ($p<0.001$). Three patients (8.3%) had the IGB removed due to intolerance. Post-insertions included vomiting, nausea, regurgitation, halitosis, risk of peptic ulceration and general discomfort.

Conclusion:

A multidisciplinary approach adopted in the pre and post operative period results in increased patient awareness and a more positive experience with the intra gastric balloon. Correct patient care and education can lead to positive outcomes and adequate weight loss that is maintained in the post extraction phase.

O-253

MARGINAL ULCERS, PROTEIN CALORIE MALNUTRITION AND BILE REFLUX: ARE THEY REALLY AN ISSUE IN LONG TERM WITH ONE ANASTOMOSIS GASTRIC BYPASS: DATA OF 8 YEARS FOR OVER 5000 PROCEDURES

Endoscopic and percutaneous interventional procedures

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Introduction:

One anastomosis gastric bypass (OAGB) is being performed by surgeons across the globe. Despite being a very effective and powerful procedure, it is marred by controversy and lack of long-term data. Bile reflux, protein calorie malnutrition and marginal ulcers remain three common issues of concern after OAGB.

Objective:

We present our data on follow up of over 5000 patients who underwent OAGB at our center in last 8 years.

Methods:

We evaluated the data of patients who underwent OAGB at our center since 2012. 5144 patients underwent the procedure and they were evaluated for marginal ulcers, bile reflux and protein deficiency. Upper GI endoscopy is done at our center after 6 months or more for post OAGB.

Results:

Out of 5144 patients 514 patients underwent upper GI endoscopy. The mean period after which endoscopy was performed post-surgery was 9 months. 12% of patients had a marginal ulcer, bile esophagitis was found in 2% patients, bile gastritis was found in 15% patients, de novo hiatus in 1% patients. Presence of bile in the stomach pouch was recorded in 25% patients while the presence of bile in esophagus was found in 2% of patients. Serum albumin less than 3.5g/dl was recorded in 15% patients and total protein less than 6.0g/dl was recorded in 5% patients. More than 100% excess weight loss was documented in 5 patients. Most patients with protein deficiency and 100% excess weight loss was operated before 2015 when limb length was 250 cm but reduced after that year when limb length was reduced to 150-180cm.

Conclusions:

One anastomosis gastric bypass has more incidence of marginal ulcers than the incidence in gastric bypass as reported in the literature. Bile is present in both stomach pouch and even in esophagus in some patients. Alteration of limb length reduces the incidence of protein calorie malnutrition.

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O-254

MBSAQIP NATIONAL REGISTRY STUDY OF SLEEVE GASTRECTOMY AND GASTRIC BYPASS OUTCOMES IN PATIENTS AGE 80 AND OLDER

Bariatric surgery in the over 65s

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Background:

There are 10 million Americans over age 80 and a significant fraction are obese. An increasing number of these patients are undergoing bariatric surgery.

Objective:

To determine whether patients aged 80 and above who undergo primary sleeve gastrectomy (SG) or gastric bypass (GB), differ from younger patients in the frequency of adverse outcomes.

Methods:

This cross-sectional retrospective analysis used the 2015-2019 Participant Use Data File of the MBSAQIP database. Patients who underwent previous abdominal surgery; whose surgery represented revision or conversion; and whose cases were emergent were excluded from analyses. We compared 399 patients over age 80 (>80) to 829,154 under age 80 (<80) who underwent sleeve gastrectomy or gastric bypass as the principal operative procedure. The main outcome measures were 30-day general and surgery specific mortality, and frequency of 30-day post-operative serious adverse events (including renal failure, need for anti-coagulation, cardiac arrest/CPR, coma for 24 hours, cerebrovascular accident, drain present at 30 days, myocardial infarction, pulmonary embolism, transfusion, admission to Intensive Care Unit, intubation, venous thromboembolism), readmissions, ED visits, reoperations, and other interventions. Chi square tests were used to test for between-group differences in frequency using alpha < 0.05.

Results:

Table 1 presents data on demographics, pre-operative risk factors and post-operative outcomes for the two groups. In the >80 group, there were more patients with a history of high cholesterol, a history of pulmonary embolism, on therapeutic anticoagulation, a history of venous stasis; and fewer with smoking history. The relative frequencies of 30-day mortality (0.00% vs. 0.093%, p=0.543) and any serious adverse event (2.5% vs. 2.3%, p=0.747) did not differ in >80 vs. <80, respectively. There were no significant differences in the rates of readmissions, ED visits, reoperations, and other interventions between the two groups.

Conclusion:

Bariatric surgery in patients over the age of 80 years is associated with similar low mortality and adverse events compared to younger patients. Based on the baseline characteristics, it appears that this group of patients is carefully selected by the bariatric surgery programs.

Table 1. Characteristics of patients less than 80 years of age and 80 years and older who underwent primary sleeve gastrectomy or gastric bypass during 2015-19. Source: MBSAQIP PUF.

Total N	Condition	age < 80	age ≥ 80	p value
Demographics at Time of Surgery				
828618	Sex	663,450 (80.1%)	301 (76.6%)	0.085
755465	Race Caucasian	594,456 (78.7%)	267 (75.1%)	0.077
	African American	154,098 (20.4%)	84 (23.5%)	
	AAPI	6,554 (0.9%)	6 (1.7%)	
754164	Hispanic Ethnicity	642,614 (85.5%)	314 (87.5%)	0.33
823269	BMI category 30-34.99	32694 (4.0%)	19 (4.9%)	0.226
	35-39.99	186,314 (23.0%)	99 (25.8%)	
	40-49.99	419,874 (51.0%)	195 (50.1%)	
	≥ 50	181,003 (22.0%)	71 (18.3%)	
Medical History Prior to Surgery				
829154	Any Comorbidity Present	630,547 (76.1%)	301 (76.4%)	0.848
829154	Diabetes	212,593 (25.7%)	87 (22.1%)	0.105
829154	Renal Dialysis	2,564 (0.3%)	0 (0.0%)	0.269
829154	GERD	258,707 (31.2%)	125 (31.7%)	0.827
829154	HBP	394,040 (47.5%)	190 (48.2%)	0.788
829154	High Cholesterol	195,269 (23.6%)	114 (28.9%)	0.017*
829154	COPD	13,248 (1.6%)	11 (2.8%)	0.059
829154	Obstructive Sleep Apnea	134,174 (37.9%)	118 (38.9%)	0.811
829154	History of DVT	13,961 (1.7%)	11 (2.8%)	0.088
829154	Pulmonary Embolism	10,206 (1.2%)	13 (3.3%)	0.0001*
829154	IVC filter	4,791 (0.6%)	0 (0.0%)	0.13
829154	Myocardial Infarction	10,338 (1.2%)	7 (1.8%)	0.344
829154	O_2 Dependence	5,631 (0.7%)	3 (0.8%)	0.843
829154	Previous Cardiac Surgery	8,818 (1.1%)	7 (1.8%)	0.168
829154	Previous Surgery	63,735 (7.3%)	25 (6.3%)	0.454
829154	Renal Insufficiency	5,180 (0.6%)	2 (0.5%)	0.767
829154	Therapeutic Anti-Coagulation	23,309 (2.8%)	27 (6.9%)	0.0001*
829154	Venous Stasis	7,887 (1.0%)	9 (2.3%)	0.006*
828857	Functional Dependence	7,776 (0.9%)	6 (1.5%)	0.227
831962	PTC	15,798 (1.9%)	11 (2.8%)	0.199
831962	Smoking	67,994 (8.2%)	19 (4.8%)	0.014*
354474	Steroids	6,893 (1.9%)	7 (2.3%)	0.647
Adverse Events Associated with Surgery in the 30 days following surgery				
829154	Any Significant Adverse Event	19,015 (2.3%)	10 (2.5%)	0.747
829154	Complication - Renal Failure	575 (0.1%)	0 (0.0%)	0.601
829154	Complication - Anti-Coagulation	3,713 (0.4%)	3 (0.8%)	0.352
829154	Complication - Cardiac Arrest CPR	344 (0.04%)	0 (0.0%)	0.686
829154	Complication - Coma 24	22 (0.002%)	0 (0.0%)	0.919
829154	Complication - CVA	106 (0.012%)	0 (0.0%)	0.822
829152	Complication - Drain Present 30d	1,864 (0.2%)	2 (0.5%)	0.236
829154	Complication - Myocardial Infarction	230 (0.03%)	0 (0.0%)	0.741
829154	Complication - Pulmonary Embolism	959 (0.1%)	0 (0.0%)	0.499
829154	Complication - Transfusion	5,698 (0.7%)	4 (1.0%)	0.431
829154	Complication - Intensive Care Unit	5,941 (0.7%)	2 (0.5%)	0.623
829154	Complication - Intubate	1,148 (0.1%)	1 (0.25%)	0.539
829154	Complication - Venous Thromboembolism	1,574 (0.2%)	0 (0.0%)	0.394
829154	Complication - Bleeding Units	0 (0.0%)	0 (0.0%)	0.999
Mortality				
829154	Any Mortality	777 (0.093%)	0 (0.0%)	0.543
829154	Related Mortality	429 (0.052%)	0 (0.0%)	0.651
828486	Died in Hospital	244 (0.029%)	2 (0.5%)	0.733
Service Utilization				
688142	ED Visit	48,881 (7.1%)	33 (9.1%)	0.137
829154	Any Intervention within 30d	10,626 (1.3%)	3 (0.8%)	0.338
829154	Re-admit within 30d	32,236 (3.9%)	14 (3.6%)	0.73
829154	Return to surgery 30d	10,853 (1.3%)	5 (1.3%)	0.944
828486	Discharged to home	825,625 (99.7%)	391 (99.2%)	0.092

O-255

MEDIUM-TERM EFFICACY OF THE ENDOSCOPIC TRANSORAL OUTLET REDUCTION FOR WEIGHT REGAIN AND DUMPING SYNDROME AFTER GASTRIC BY-PASS

Management of weight regain after surgery

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Introduction:

Gastric Bypass (GB) is one of the most common bariatric procedures. However, up to 1/3 of patients may experience significant weight regain and develop Dumping Syndrome (DS) due to dilation of the stoma and/or the gastric pouch. Approaches as diet and drugs are often ineffective, and surgery could cause significant weight regain and has high morbidity. An endoscopic approach could be an intermediate solution for treating DS and in case of weight regain.

Objectives:

Primary aim is to evaluate the results of endoscopic transoral outlet reduction (TORe) as a treatment for symptoms by DS. Secondary aims are the results on weight loss and patient safety of the procedure.

Methods:

A retrospective analysis was conducted on consecutive patients who underwent TORe between May 2014 and October 2020 at our Hospital. Sigstad Scoring System (S'S), Early and Late Arts Dumping Questionnaire (EADQ and LADQ), body mass index (BMI), percentage of total body weight loss, and percentage of excess weight loss (%TBWL, %EWL), were analyzed before and after the procedure at 6 and 12 months.

Results:

81 patients (mean age 45,8 years, 78% female) underwent TORe. All patients had a dilated gastrojejunal anastomosis at gastroscopy. No adverse events were observed. Baseline BMI was 35,8±5,8. Based on SS >7, 51 patients (63%) were classified as dumpers (mean S'S 15,59±5,37). Mean Early ADQ was 8,69±5,7, mean Late ADQ 5,63±4,22. All patients reached 12 months follow-up. No adverse events were observed after the procedure. 1 patient required repetition of the procedure (Re-TORe) after 6 months for onset of DS's symptoms.

Mean ΔBMI, %EWL and %TBWL at 6 and 12 months were respectively 3,76±3,91 and 3,45±3,6, 54,7 ±136,3 and 40,6 ±59,1, 10,2 ±7,2 and 9,3 ±9,1.

35 (69%) and 32 (63%) dumper patients had resolution of Dumping Syndrome symptoms (SS<7) at 6 and 12 months (fig. 1). Performing Paired T-test, statistically significant decrease of all scores was observed: -10,1±7,1 and -9,5±7,5 for SS (p-value <0.001), -5,5±6,0 and -5,4±6,1 for EADQ (p <0.001), -4,0±4 and -3,8±4,4 for LADQ (p <0.01) (fig.2).

Dumpers patients that didn't have symptoms improvement also had worse weight loss compared to dumpers patients with symptoms resolution: at 12 months, %EWL was 11 vs 54 and %TBWL was 4 vs 13.

Conclusion:

TORe procedure could be a safe and effective procedure for the resolution of symptoms of both Early and Late Dumping Syndrome and weight loss after gastric bypass.

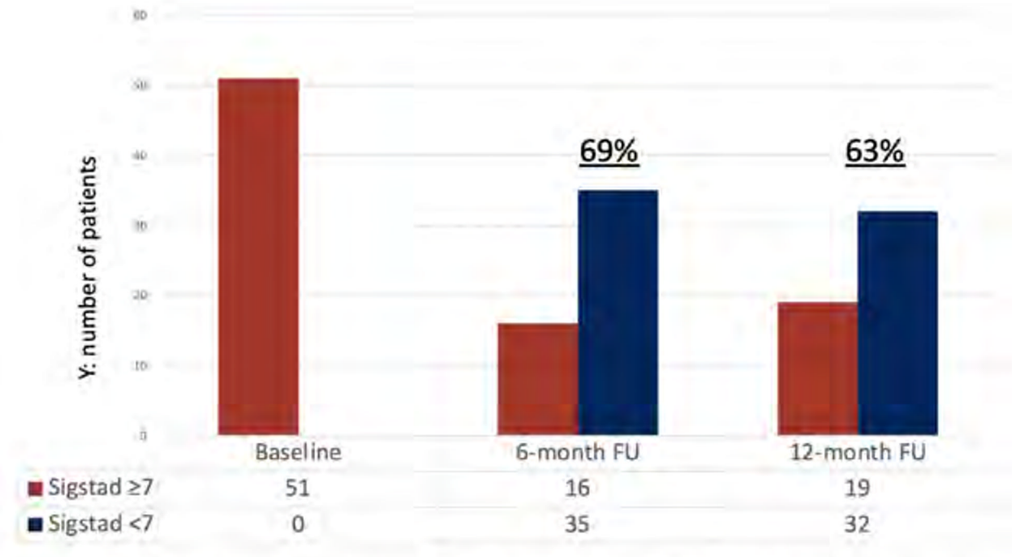

Figure 1. At Baseline fifty-one patients were classified as "dumper" according to a Sigstad's Score>7. Thirty-five (69%) and thriry-two (63%) dumper patients had resolution of Dumping Syndrome symptoms (Sigstad's Score<7) at 6 and 12 months, respectively.

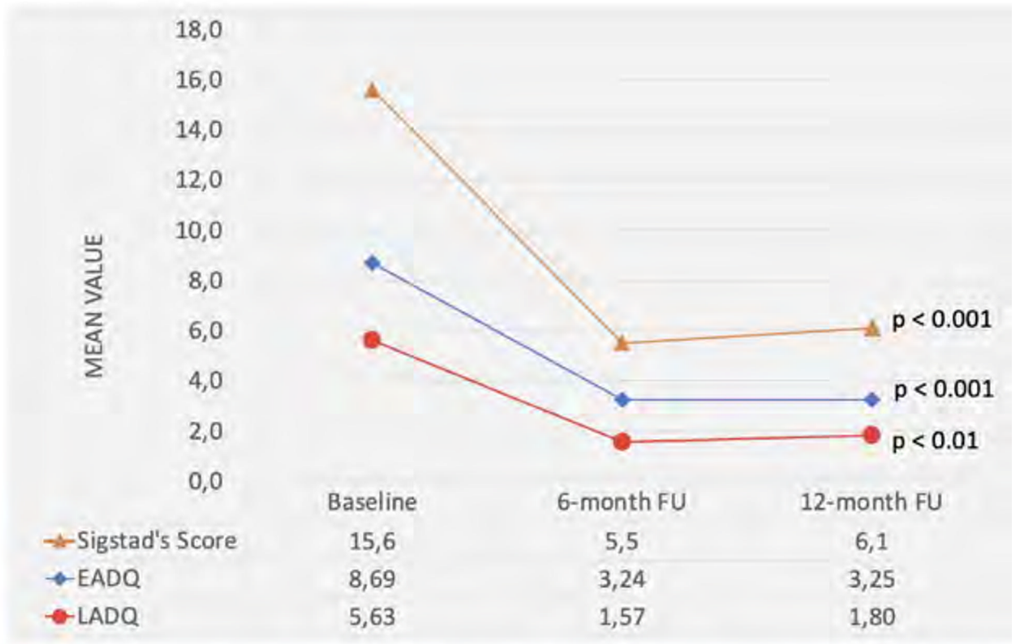

Figure 2. Performing Paired T-test, statistically significant decrease of all Dumping Syndrome's scores was observed: -10,1±7,1 and -9,5±7,5 for Sigstad's Score (p-value <0.001), -5,5±6,0 and -5,4±6,1 for Early Arts Dumping Questionnaire [EADQ] (p <0.001), -4,0±4 and -3,8±4,4 for Late Arts Dumping Questionnaire [LADQ](p <0.01).

O-256

MESENCHYMAL STEM CELLS AND PRP THERAPY FAVORIZE LEAK CLOSURE AFTER SLEEVE GASTRECTOMY IN ZUCKER RATS

Basic science and research in bariatric surgery

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Introduction:

Sleeve gastrectomy (SG) is the most performed bariatric surgery but gastric leaks following SG occur in up to 2% of cases. Regenerative medicine is emerging as a promising field offering multiple possibilities in wound healing. We studied the efficiency of locally administered mesenchymal stem cells (MSCs) and platelet-rich plasma (PRP) on leak closure following SG in rats.

Methods:

The amount of PRP and MSCs extracted from one rat was analyzed and a model of gastric leak was developed in 10-week-old male Zucker rats. Twenty-four rats underwent SG fashioned with a leak. After 24 h, a second surgery was performed. The control group was treated by peritoneal lavage and drainage only while the experimental group received an additional treatment of locally administered MSCs and PRP at the leak orifice. Analysis of the leak healing process was done by an anatomopathological examination of the stomach 1, 2, 3, and 4 weeks after SG.

Results:

The extraction of MSCs and PRP from one rat was necessary for three recipients. Anatomopathological examination suggests that the closure of the leak orifice was faster in the experimental group. Statistical analysis revealed a significantly increased mucosae renewal and fibrosis score at the leak orifice after treatment with MSCs and PRP ($p < 0.001$).

Conclusion:

These results suggest that PRP and MSCs may accelerate the closure of leaks following SG in rats and may become a new tool in the treatment of human gastric leaks but more research on this topic is needed to confirm these findings.

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O-257

METABOLIC ADAPTATIONS IN ENTERO-ENDOCRINE CELLS AND SATIETY HORMONES AFTER ROUX-EN-Y GASTRIC BYPASS WHEN COMPARED TO A CALORIE-MATCHED, WEIGHT-LOSS-MATCHED DIET-ALONE INTERVENTION

Basic science and research in bariatric surgery

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Background:

Roux-en-Y Gastric Bypass (RYGB) is associated with increased postprandial satiety gut hormones (SGHs) which are released from enteroendocrine cells (EEC). Little is known about the effect of RYGB on the relation between SGH secretion and their EEC expression.

Objective:

To assess the effect of RYGB compared to calorie-matched, weight loss-matched controls on EEC's SGH expression, and its correlation with SGH secretion.

Methods:

We recruited participants 1) prior to their RYGB and 2) matched-controls based on age, BMI and gender for a calorie- and weight loss-matched diet only intervention i.e. non-surgical (NS) cohort. Participants were weight stable for 3 months before enrollment. The NS cohort followed the same post-RYGB diet consisting of 500kcal/day for week #1 and increasing calories slowly up to 800-1000kcal/day for weeks 9-12. We performed testing at baseline and after a ≥7% total body weight loss (%TBWL) was achieved. During testing day, participants had an endoscopy after an overnight fasting period to obtain mucosal colonic biopsies. Blood samples were taken at -15, 0, 15, 30, 45, 60, 90, 120, 150, 180, 210, 240, 300, 360 min after a 320 Kcal mixed meal(34% carbs, 26% protein, and 40% fat). We measured GLP-1 and PYY in plasma by ELISA. We dually immunostained paraffin-embedded mucosal biopsy sections [3-4 biopsies/participant (n=8 RYGB, n=9 NS)] with antibodies against GLP-1 & PYY, and counted (blinded to group) using a confocal microscope. We calculated cell ratios by dividing the number of positively stained cells by the total number of nuclei.

Results:

We included 11 RYGB (age 41±3.2 years, BMI 45 kg/m2, 82% female), and 10 NS controls (age 39±3.5 years, BMI 46 kg/m2, 80% female). There were no significant differences at baseline or on %TBWL among the groups. After weight loss, RYGB participants had significantly higher plasma postprandial GLP-1(p=0.002) and PYY(p=0.002)AUC. GLP-1 and PYY positive cell ratios were higher following weight loss in the RYGB group and lower in the control group[GLP-1= diff 0.8%; 95%CI= 0.6%–0.9% p<0.001, PYY= diff 1.07%; 95%CI 1.03%–1.12% p<0.001]. The increased GLP-1 positive cell ratio correlated with the increase in GLP-1 AUC(r2=0.3, p=0.03).

Conclusion:

Following weight-loss, RYGB increases plasma SGHs and EEC's SGH expression when compared to a NS diet restricted group. These RYGB induced changes might be compounding adaptive mechanisms contributing to sustained weight loss.

	Total n = 21 mean (SEM)	Diet n = 10 mean (SEM)	RYGB n = 11 mean (SEM)	p-value
Females, %	80.9%	80%	81.8%	0.92
Age, years	40.4 (2.3)	39 (3.5)	41 (3.2)	0.23
Weight, kg	129.5 (3.9)	128 (5.3)	130.9 (5.8)	0.62
BMI, kg/m2	45.5 (1.3)	46 (2)	45 (1.7)	0.62
%TBWL	13.2% (1.2%)	11.7% (1.0%)	14.7% (2.2%)	0.31
Weight-loss Rate (Kg/Day)	0.29 (0.03)	0.27 (0.04)	0.31 (0.04)	0.96
GLP-1/Kcal AUC BL	7.5 (1.1)	6.6 (1.4)	8.4 (1.8)	0.7
GLP-1/Kcal AUC WL	14.9 (2.8)	7.9 (1.0)	25.4 (4.0)	**0.002**
PYY/Kcal AUC BL	96.6 (7.8)	88.7 (6.0)	103.6 (13.7)	0.92
PYY/Kcal AUC WL	236.2 (74.2)	106.8 (9.0)	408.7 (151.2)	**0.002**
GLP-1 + Cell ratio BL, %	1.2% (0.1%)	1.12% (0.11%)	1.25% (0.09%)	0.23
GLP-1 + Cell ratio WL, %	1.1% (0.1%)	0.66% (0.08%)	1.5% (0.14%)	**<0.001**
PYY + Cell ratio BL, %	1.3% (0.1%)	1.35% (0.14%)	1.28% (0.09%)	0.77
PYY + Cell ratio WL, %	1.3% (0.2%)	0.86% (0.11%)	1.94% (0.13%)	**<0.001**

Abbreviations used: AUC, Area Under the Curve; BMI, body mass index; BL, Baseline; GLP-1, Glucagon-Like Peptide – 1; PYY, Peptide YY; WL, Weight Loss; Cell Ratio, Enteroendocrine cell Ratio defined as enteroendocrine cells divided by total mucosal cells per biopsy & expressed as a percent; SEM, Standard Error Mean; %TBWL, Percent Total body weight loss.
*p-value: calculated with Wilcoxon test

Table 1: Demographics and enteroendocrine changes following weight-loss after roux-en-y gastric bypass (RYGB) compared to a calorie-matched, weight-loss-matched diet intervention (Diet)

O-258

METABOLIC SURGERY FOR FAMILIAL HYPERLIPIDEMIA

Type 2 diabetes and metabolic surgery

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Introduction:

Familial Hyperlipidemia is a genetic disorder characterised by high cholesterol levels esp LDL. High incidence of cardiac mortality is noted in these individuals. However, no interventional studies have concluded mortality benefit from cholesterol lowering in these patients. Multiple treatment options are available varying from life style modification to cardiac interventions with favorable outcome. We have previously reported a case of autosomal recessive hypercholesterolemia who was treated with BilioPancreatic Diversion with satisfying result.

Objectives:

We would like to present our experience of two brothers who were managed with two different surgical procedures owing to unusual intra-op findings.

Methods:

Two brothers with Familial Hypercholesterolemia were planned for Roux en Y Duodeno Jejunal bypass, however, one sibling had unusually large mesenteric mass at the proposed site of jejunal transection and hence a Roux en Y Cholecysto ileal bypass was done. Their post operative lipid profile was studied at 3, 6 and 9 months. Both brothers showed significant improvement in their cholesterol levels.

Results:

Both brothers had significant complications of hyperlipidemia with one having undergone coronary angiography and stenting, while the other had undergone Coronary Bypass for triple vessel Coronary artery disease.

Conclusion:

Patients with Familial Hyperlipidemias can be offered surgery as lipid lowering strategy in adjunct to other measures, however long-term result of both these procedures need to be studied.

O-259

METABOLIC SYNDROME REMISSION WITH ONE ANASTOMOSIS GASTRIC BYPASS IN LOW BMI PATIENTS

Surgery and strategies for low BMI

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Introduction:

Metabolic Syndrome(MS) is a diagnostic not only for obese patients. Metabolic surgery for Low BMI has been described and protocoled in different surgical groups and demonstrated that with a correct predictive score, Low BMI can safely be addressed with restrictive and malabsorptive procedures such as sleeve gastrectomy or One Anastomosis Gastric Bypass(OAGB).

Methods:

We prospectively evaluated the parameters in patients diagnosed with MS that underwent OAGB (n=20). All patients with oral treatment for Hypertension, Diabetes Mellitus(DM), Hypertriglyceridemia, and with low HDL levels. Tailored Bilio Pancreatic(BP) Limb was measured. Small bowel was completely measured in all patients. Main small bowel length was 6.2mts. Gastric pouch was measured in all patients in 15cm with 40fr calibration bougie. Gastroyeyunal anastomosis was created with a 45mm stapler. Main BP limb length was 1.2mts. Anti-reflux mechanism was created as described By Dr. Carbajos(BAGUA) technic.

Results:

Main initial BMI of patients was 28.3. All the patients achieved Diabetes remission (HBA1C < 6.5%) without medical treatment after one year. Initial HbA1c was 10.15%, and final after one year was 6.15%. The time of complete remission was different between patients with less than 5 years of DM treatment (22±6 days) and patients with more than 5 year (40±5 days). Main final triglycerides after one year remained normal (128mg/dl±3) . And Main final HDL levels normalized and stayed normal after one year(44mg/dl±2) . Two patients presented with treatable anemia. One patient returned to Hypertension medical treatment. One patient was readmitted and converted to normal anatomy due to malnutrition and hypoalbuminemia. (Patient was followed less than a year). Rest of the patients stayed in a main BMI of 22.86

Conclusion:

•Bariatric procedure like OAGB can be safely performed in patients ≤ 30 BMI and improve MS

•A BP limb of 1.2 seems to be a safe length in low BMI patients with a total length that leaves 4mts or more of common channel

•Further data and long-term analysis is needed to stablish safety for low BMI patients with a single anastomosis bypass

O-260

MICRONUTRIENT DEFICIENCY AMONG PERSONS UNDERGOING BARIATRIC SURGERY IN LATIN AMERICA

Fertility, pregnancy, nutrition and bariatric surgery

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Background:

Persons submitted to bariatric surgery present micronutrients deficiency before and after surgery, due to the lack of proper supplementation. This review aims to establish the prevalence of micronutrient deficiency in people undergoing bariatric surgery in Latin America.

Methods:

This review was conducted in accordance with the PRISMA Guidelines 2020 (Figure 1). We included articles in English, Spanish or Portuguese from Latin American countries, that aimed to measure serum concentrations and register micronutrients deficiencies before and/or after the surgery, search strategy can be seen in Table 1. The included articles were evaluated using the adapted version of the Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research and the American Dietetics Association Evidence Analysis process was used. This revision was submitted for registration in PROSPERO, pre-registration ID: 327733.

Results:

Based on the design and characteristics of the studies included in the review, they were divided with respect to the supplementation and sampling moments into three groups: Studies with post-surgical micronutrient quantifications (Table 2), studies without supplementation including pre- and post-surgery micronutrient quantification (Table 3), studies with supplementation including pre- and post-surgery micronutrient quantification (Table 4). In the Latino population, vitamin A was the micronutrient with the highest prevalence of deficiency (90.6%), followed by vitamin D (90%), Retinol (72.5%), Calcium (67%), Zinc (68%), vitamin B12 (61.8%), Hemoglobin (52.3%), Iron (47.6%), vitamin C (29.3%), Copper (14.3%), Folate (13%) and vitamin B1 (2%). There was a greater micronutrient deficiency in persons submitted to RYGB than those who underwent SG before and after the surgery. Out of all studies included, only 44% specified the analytical method used for the quantification of micronutrients; 15% partially reported this, and the rest 41% failed to provide such information, this represents a significant bias.

Conclusions:

The available scientific evidence on micronutrient deficiency in persons undergoing bariatric surgery in Latin America is scarce and with high heterogeneity in the methodologies used in the studies and in the presentation of the results. Further research is suggested to include bariatric multivitamin supplementation in the methodology, assessing the type of diet and compliance to nutritional and medical prescription.

Table 1. Search strategy on the six databases: EBSCO, Science Direct, PubMed, Redalyc, Web of Science (SciELO) and Springer.

Search Date	July-October 2021					
Search strategy	Bariatric Surgery AND Deficiency AND (Iron OR Hemoglobin OR Folate OR Vitamin D OR Vitamin A OR Copper OR Calcium OR Zinc) AND (Mexico OR Brazil OR Argentina OR Cuba OR Chile OR Colombia)					
Filters	No filters	Research articles	No filters	No filters	No filters	Article
Database	EBSCO	Science Direct	PubMed	Redalyc	Web of Science (SciELO)	Springer
Number of records	12,431	733	165	286	39	5,767

Proprietary design, based on the recommendations of PRISMA-S 2021 (an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews)[13]

Table 2. Studies findings.

Country	Number of Studies	Study Design	Number of studies	Assessed Micronutrients	Number of studies	Supplementation	Number of studies	Pre-surgery Deficiencies	Prevalence	Post-surgery Deficiencies	Prevalence
Brazil	20	Observational	1	Calcium	7	Prescribed by researchers	13	Calcium	2.4%	Calcium	2.4-67%
		Analytic Transversal	3	Iron	8	Not prescribed by researchers	1	Iron	7.1-27.3%	Magnesium	32.1%
		Prospective	7	Magnesium	4	Without Supplementation	6	Zinc	11.8-71%	Phosphate	2.8%
		Case Control	1	Phosphate	3			Folate	7%	Iron	1.45-47.6%
		Retrospective	6	Zinc	3			Vitamin A	8.6-28.6%	Zinc	6.6-68%
		Ambispective	1	Vitamin A	5			Vitamin B12	2.9-23.1%	Hemoglobin	11.5-52.3%
		Not Specified	1	Vitamin B12	5			Vitamin C	8.6%	Folate	3.4-5.5%
				Vitamin C	1			Vitamin D	37-52%	Vitamin A	27.6-90.6%
				Vitamin D	7			Hemoglobin	5.6-62%	Vitamin B12	6.2-61.8%
				Folate	4					Vitamin C	29.3%
				Hemoglobin	8					Vitamin D	25-91%
Chile	4	Analytic Transversal	1	Calcium	1	Prescribed by researchers	3	Hemoglobin	12-25%	Calcium	67%
		Prospective	3	Copper	2	Not prescribed by researchers	1	Vitamin D	15.8-60.9 %	Copper	0-14%
				Iron	1	Without Supplementation	0			Hemoglobin	22-50%
				Zinc	3					Folate	13%
				Vitamin B12	1					Vitamin B12	13%
				Vitamin D	2					Vitamin D	5.6-17.4%
				Folate	1					Zinc	5-38%
				Hemoglobin	2						
Argentina	2	Prospective	1	Calcium	1	Prescribed by researchers	2	Hemoglobin	6.74%	Hemoglobin	27%
		Ambispective	1	Iron	1	Not prescribed by researchers	0	Iron	5.33%	Iron	23%
				Magnesium	1	Without Supplementation	0	Vitamin	12.3%	Zinc	20%
				Zinc	1			Vitamin D	74.35%	Vitamin D	41%
				Vitamin A	1						
				Vitamin B1	1						
				Vitamin B6	1						
				Vitamin B12	1						
				Vitamin D	1						
				Folate	1						
				Hemoglobin	1						
Mexico	1	Analytic Transversal	1	Vitamin D	1	Prescribed by researchers	0			Vitamin D	84.62%
						Not prescribed by researchers	1				
						Without Supplementation	0				

ORAL ABSTRACTS

O-261

MICROSTRUCTURE OF INGESTIVE BEHAVIOR OF PATIENTS ONE YEAR AFTER ROUX-EN-Y GASTRIC BYPASS

Basic science and research in bariatric surgery

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Introduction:

Bariatric surgery (BS) is a surgical procedure that supports improvement and remission of many obesity-related comorbidities, and sustained weight loss (WL). However, a subset of patients undergoing surgery fails to achieve adequate WL. Extensive research increased the understanding of the wide range of mechanisms underlying the effectiveness of BS, where altered satiety and hunger are considered important factors for WL after RYGB. Recently, the drinkometer, was introduced as a successful tool for the study of ingestive microstructure in humans. This allows to investigate in humans the results obtained in animal studies but also to investigate the relation between the measured behaviour and what the patients report. From two previous studies, we know that, after RYGB, the ingestive microstructure undergoes progressive changes, however, one year after surgery, the behaviour appears to be stable in the short term.

Objectives:

We aimed to identify one-year postoperative microstructural parameters of ingestive behaviour that could explain the variation in WL after RYGB. Secondly, we aimed to investigate if the reported pre- and post-ingestive sensations of one-year-postoperative RYGB patients are in relation with their microstructure of ingestive behaviour.

Methods:

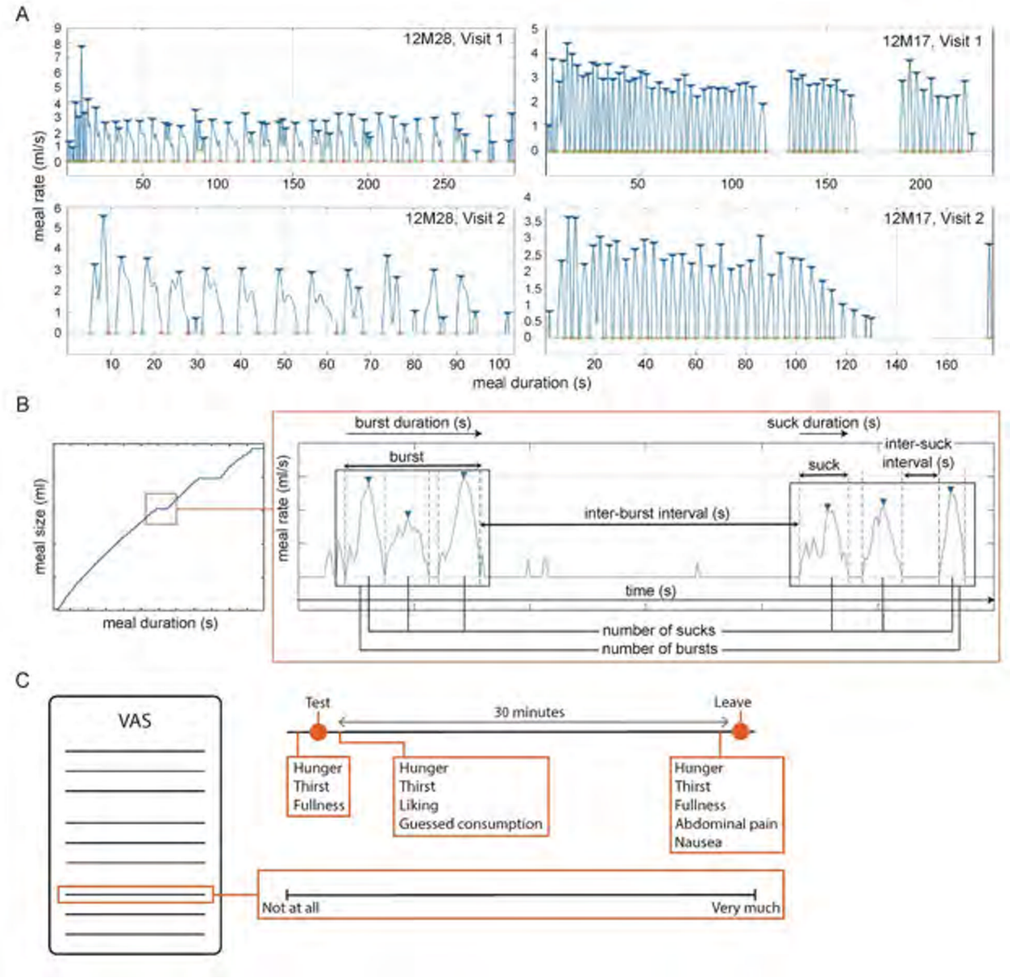
One-hundred-seventeen one-year-postoperative RYGB female patients who received a RYGB were assessed for eligibility, and 50 were enrolled. After an overnight fasting, patients were asked to consume 800 ml of a high-sugar, high-fat liquid meal. Their ingestive behaviour was measured with the drinkometer. Self-reported pre- and post-ingestive sensations were measured with a 100-mm horizontal visual analogue scale (VAS). All microstructural parameters of the ingestive behaviour were analysed in combination using regression to explain the variation in WL 12 months after Roux-en-Y gastric bypass.

Results:

The reported sensations do not correlate with the measured ingestive behaviour. Some microstructural parameters, such as suck rate and suck duration, appear to be in relation to the postoperative WL. Also, different patterns of behaviour were found.

Conclusion:

These results suggest that microstructure of ingestive behaviour measured with the drinkometer may help determine predictors for less successful WL after bariatric surgery. If verified in larger cohorts, this may form the basis for individualised pre- and postoperative support to optimise WL outcome.



O-262

MID-TERM RESULTS FROM THE DUTCH COMMON CHANNEL TRIAL (DUCATI): SUPERIOR WEIGHT LOSS RESULTS OF THE LONG ROUX-LIMB GASTRIC BYPASS IN COMPARISON TO THE STANDARD BYPASS AT THREE YEARS FOLLOW-UP

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

In the multi-center Dutch Common Channel Trial (DUCATI) a very long Roux limb Roux-en-Y Gastric Bypass (VLRL-RYGB: BP-limb 60 cm, Roux-limb variable and common channel 100 cm) was compared to a standard Roux-en-Y gastric bypass (S-LRYGB: BP-limb 60 cm, Roux-limb 150 cm and common channel variable) in the treatment of morbid obese patients. As all enrolled trial patients are beyond a 3 years follow-up a mid-term analysis was performed to investigate the effect of the VLRL-RYGB at that point.

Methods:

A total of 444 patients were randomized (1:1) to receive either a VLRL-RYGB or a S-LRYGB. Follow-up results for weight loss, effect on obesity related comorbid conditions, complications, re-operation, and malnutrition are investigated.

Results:

At 3 year follow up a significant difference in %TWL (34.0% vs 31.4%, p=0.017) and %EWL (84.7% vs 76.6%, p=0.043) was observed in favor of VLRL-LRYGB group. Overall complication rate between 30 days and 3 years after surgery was 15.8% in the VLRL-LRYGB group vs 9% in the S-LRYGB group (p=0.031). Eight (3.6%) patients in the VLRL-LRYGB group versus 2 (0.9%) in the S-LRYGB group (p=0.055) required revisional surgery for malabsorption. A significantly higher percentage of patients in the VLRL-RYGB group had resolution of type 2 diabetes when compared to patients in S-LRYGB group (71.9% versus 48.9% respectively, p=0.044). No significant differences for nutrient deficiencies were found.

Conclusion:

At mid-term FU a considerable, significantly increased effect on weight loss of the VLRL-LRYGB was observed compared to the S-LRYGB, with higher risk of overall complications, but no significant nutritional side effects. These results, which need further future study, might impact the current view on the value of the Roux-limb in the discussion on optimum limb lengths in Roux-en-Y gastric bypass surgery.

O-263

MID-TERM RESULTS OF ROUX-EN-Y GASTRIC BYPASS WITH LONG BILIO-PANCREATIC LIMB IN KOREAN DIABETIC PATIENTS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Roux-en-Y gastric bypass is the effective and durable metabolic procedure for resolving Type 2 diabetes (T2D). The elongation of the biliopancreatic limb may lead to greater stimulation of the distal intestine, alterations in bile acid leading to better metabolic outcomes. The aim of this study is to evaluate the safety and efficacy of the RYGB with a biliopancreatic limb of 130-150 cm in the control of T2D in Korean patients.

Methods:

From December 2015 to June 2021, 39 T2D patients underwent laparoscopic RYGB with the biliopancreatic-limb of 130-150 cm and the alimentary-limb of 100 cm.

Results:

There was no mortality. The minimum follow-up was 12 months. The mean age was 37.6 ± 8.8 years. Mean weight was 95.7 ± 17.4 kg. Percentage of total weight loss (%TWL) was 29.4 ± 7.9%, 27.5 ± 8.5%, and 26.5 ± 3.5%, at postoperative 1, 2, and 3 year, respectively. Percentage of excess body mass index loss (%EBMI) was 94.4 ± 27.1%, 93.0 ± 33.9%, and 92.8 ± 26.4%, at postoperative 1, 2, and 3 year, respectively. The BMI cut-off value is 23kg/m2. The mean fasting glucose decreased from 180.4 ± 60.1 to 108.9 ± 21.8 mg/dl and the mean glycated hemoglobin (HbA1c) went from 9.7 ± 2.0 to 5.5 ± 0.3%. During follow-up, 86.6% had their T2D under complete control (HbA1c < 6%, no anti-diabetic medications), while 13.3% were under partial control. No patient developed hypoalbuminemia. But, vitamin B12 level decreased at postoperative 1 year.

Conclusion:

RYGB with long bilio-pancreatic limbs is safe and seems effective in achieving remission of T2D in Korean patients.

O-264

MOBILITY DEVICE USE AS A PREDICTOR OF DISCHARGE LOCATION AFTER BARIATRIC SURGERY

Endoscopic and percutaneous interventional procedures.

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Introduction:

Bariatric surgery offers well-documented benefits to severely obese patients. Obesity impacts an individual's quality of life, mobility and is linked to many comorbidities. In this study, we assessed whether the usage of a mobility device significantly increased the patient's risk of being discharged to a specialized facility, including a rehabilitation facility, separate acute care, skilled care or unskilled facility, after bariatric surgery.

Methods:

The MBSAQIP database from 2015-2018 was used. Patients were included if they underwent primary sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (GB). Patients with documented use of a mobility device were assigned to the "Mobility Device" cohort (MD). All other patients were assigned to the "No Mobility Device" cohort (NMD). The MD and NMD groups were sub-stratified by age: less than 50, 50-60, 60-70 and 70+. The primary endpoint was to assess whether the patient was discharged to their home or a specialized facility post-operation. Patients admitted from a non-home facility were excluded. The rate of discharge to home versus other facilities was compared to assess for statistical significance.

Results:

Using the MBSAQIP database, 650,930 patients were identified who underwent non-revisional bariatric surgery, including 466,270 SG and 184,660 GB. Of the total patients included in the study, 10,225 patients were assigned to the MD cohort and 640,705 were assigned to the NMD cohort. MD patients were older and had higher BMI. 295 MD patients (2.89%) and 1513 NMD patients (0.24%) were discharged to a specialized facility ($p<0.01$). Patients were then stratified by age (see Table 1).

	All patients	MD cohort	NMD cohort	P value
Age < 50	722/427,938 (0.17%)	63/3732 (1.69%)	659/424,206 (0.16%)	< 0.01
Age 50-59.99	500/146,105 (0.34%)	91/3331 (2.73%)	409/142,774 (0.29%)	< 0.01
Age 60-69.99	461/68,573 (0.67%)	113/2721 (4.15%)	348/65852 (0.53%)	< 0.01
Age 70+	125/8205 (1.5%)	28/431 (6.50%)	97/7774 (1.25%)	< 0.01

Table 1: Proportion of patients discharged to specialized facility

Conclusion:

MD patients undergoing bariatric surgery were at a significantly increased risk of being discharged to a specialized facility than NMD patients, across all age groups. As patients get older, risk increases significantly. The current study suggests that decreased mobility alone, identified with the use of a mobility device, may be an independent risk factor for discharge location. Regardless of age, it should be incorporated into the risks/benefits discussion and may be an indication that a patient would benefit from prehabilitation prior to surgery. Further study is warranted to evaluate the association between decreased mobility and postoperative discharge location and to determine if prehabilitation may decrease risk of discharge to a specialized facility.

O-265

MODIFIED ONE ANASTOMOSIS LOOP GASTRIC BYPASS AFTER A RYGB - A NOVEL TECHNIQUE

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

A failed Bariatric procedure is a disappointment to both the patient and Bariatric Surgeon. Although the reasons for failure of a procedure are multifactorial, the surgeon loses as much hope, as does the patient if the results after surgery are disappointing. The disappointment rises many folds if this failure is after a second bariatric surgery.

Options for weight regain or inadequate weight loss after a RYGB includes:

Distal RYGB

BPD-DS

Trimming the pouch, with or without a band.

Having a patient with a banded RYGB without any significant pouch dilatation would leave us with 2 options of either having to distalise the JJ anastomosis or to convert to a BPD-DS. Both these procedures carry significant morbidity of protein malnutrition and increased frequency of stool. Induced fat malabsorption after BPD-DS or distal RYGB is supposed to offer some hope for losing weight.

However, both these procedures are poorly tolerated by Indian population.

OAGB is not a new procedure for Indian Surgeons and its efficacy already proved in various studies. Can OAGB be offered in patient with RYGB?

Objectives:

To Present our data of Modified One Anastomosis Loop Gastric Bypass following a RYGB with short and medium term follow up and results.

Method:

A retrospective analysis was done for 9 patients who underwent Modified One Anastomosis Gastric Bypass following a RYGB and following characteristics were noted: Pre-operative BMI, co-morbidities, Original weight before index surgery, time to regain, post-operative follow up with regards to weight loss, change in BMI and resolution of co-morbidities.

Results:

Modified One Anastomosis Loop Gastric Bypass following a RYGB offers hope for a revision surgery without significant morbidity and is well tolerated.

Conclusion:

Modified One Anastomosis Loop Gastric Bypass following a RYGB can be considered while dealing with patients of RYGB with weight regain however, long term study needs to done to observe long term benefits.

O-266

MULTIDIMENSIONAL APPROACH TO OBESITY: HAVING A METABOLIC AND BARIATRIC SURGERY EXCELLENCE CARE CENTER MAKES THE DIFFERENCE.

Adjunctive interventions to enhance weight loss and prevent weight regain

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Introduction:

According to the World Health Organization over 4 million people die each year as a result of being overweight or obese. Diseases such as metabolic syndrome diabetes mellitus, cardiovascular disease, fatty liver, gallbladder disease, gastroesophageal reflux, obstructive sleep apnea, reproductive system disorders, many cancers, and osteoarthritis as well as social and psychological problems are associated with obesity. Treatments should be aligned with the severity of overweight, associated coexisting chronic diseases, and functional limitations. Since obesity is a multifactorial disease, it has been managed by a multiplicity of specialties but not always jointly.

Objectives:

Describe our experience in creating a multidisciplinary metabolic and bariatric surgery excellence care center from the perspective of the health care personnel.

Methods:

Face-to-face, individual, and semi-structured interviews exploring perspectives and opinions of the health care professionals who intervene in the diagnosis and management of obese and overweight patients. Transcripts were analyzed using Nvivo 12.

Results:

Analysis of the interview data revealed four differentiating factors of having a metabolic and bariatric surgery excellence care center:

1. Interaction of patients with different specialists allow the group to make a better assessment of patients.
2. Decision making process is always shared and involves different specialists who each have an opinion about the patient, discussion allows to get the best available tailored treatment.
3. Integral approach to the patients allows for better adherence to treatments and more people holding the patients accountable.
4. Participants of the group have an arsenal of health care professionals to help them according to their needs and preferences, which has proven effective for the early diagnosis and subsequent management of complications.

Conclusion:

Multidisciplinary care centers for the diagnosis and management of patients with obesity have proven to significantly impact the outcomes. Implementation of tailored interventions and follow up enhance weight loss maintenance and allow for early diagnosis of complications, which in turn leads to their prompt management.

O-267

NEED FOR SOCIAL BEHAVIOUR CHANGE COMMUNICATION AND INDIVIDUALIZED NUTRITION COUNSELLING, DIABESITY AND QUALITY OF LIFE POST ROUX-EN Y GASTRIC BYPASS (RYGB) BARIATRIC SURGERY

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Nutrition, eating behaviors before and after bariatric surgery

Background:

With rise in obesity and diabetes bariatric surgeries have also increased in India raising the need for specialized nutrition care of these patients.

Objective:

To develop and assess the impact of individualized Nutrition counselling (PNC) on RYGB Bariatric Surgery patients as compare to standard hospital care.

Methods:

A single point, hospital based, cohort- Case-Control study of RYGB patients (n=73) wherein the controls received the standard hospital care and the case group received personalized NHI for 3 m. Pre post indicators related to weight loss and remission of diabetes were done as per the American Society for Metabolic & Bariatric Surgery (ASMBS, 2016) guidelines and quality of life post bariatric surgery was done as per Bariatric Analysis and Reporting Outcome System (BAROS) (Oria et al,1998). All data were analyzed using SPSS-23 software.

Results:

Significant differences in the reduction in the body weight ($p \leq 0.001$) post 3 months was seen in both case and controls (34kg vs 29kg) along with remission in diabetes (49% vs 34%) post bariatric surgery which was also corroborated with quality of life scores (BAROS) which were better in the case group (5.95±1.96) with excellent (14.3%), very good (17.1%) and good (15.7%) categories as compared to controls (4.35±1.68) which was in (33.4%) category.

Conclusion:

Though the number of bariatric surgeries on rise and bariatric surgery can be a solution for the morbidly obese diabetics, post-surgery follow-up and counselling techniques by bariatric surgeon team need to be revisited in order to deliver a better quality of life to the patients.

Key Words: RYGB bariatric surgery, diabesity, weight loss, personalized nutrition counselling, nutritional health education, quality of life.

O-268

NEED OMENTOPEXY TO STRENGTHEN THE STAPLER LINE DURING SLEEVE GASTRECTOMY?

Sleeve gastrectomy

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Introduction:

Compared to other operations, LSG application is comfortable, but there are specific complications. The most common complications in literature include stomach fistul (1-3.9%), bleeding (<5%) and stenosis (2-5%).

Objective:

Primary robot-assisted single-anastomosis duodeno-ileal bypass with sleeve gastrectomy for morbid obesity: early outcomes from a chinese institution

Present the different group the results of omentopexy on the staple line after the sleeve gastrectomy for bleeding, stroke, leaking and stenosis prophylaxis.

Methods:

197 obese patients have undergone a sleeve gastrectomy with the omentopexy procedure in Azerbaijan Medical University and Modern Hospital clinic 2012 through 2021 years.169 of patients were females, 28 were males, mean age was 36.5 years and BMI-41.65kg/m2. The patients were randomized to 2 groups depending on the operative technique applied.1stgroup 99 patients (51%) underwent a standard sleeve gastrectomy surgery with uncovered stapler line.2ndgroup 98 patients(49%) underwent the same sleeve gastrectomy completed with omentopexy over the stapler line starting from the stomach fundus to investigate if it could reduce typical complications arising from the stapler line. The follow-up period for all patients was 48 months.

Results:

Four patients(4%) of the 1st group developed repeating bleeding from the stapler line resulted in reoperation,1(1%) patient was complicated by a functional stricture at the level of cardioesophageal sphincter, 2(2%) patient was diagnosed a torsion in a projection of angular incisure, and an important complication of stapler line leakage in the cardioesophageal region was noted in 2(%) patient. All complications were managed according to radical treatment. 2nd group patient has not detected torsion, bleeding and leak stapler line in the postoperative period, therefore we think that there are roles of omentopexy.2nd group patients did not face any of the complications mentioned above.

Conclusion:

Both standard and modified with antrumectomy sleeve gastrectomy surgeries are effective tools for weight loss and correction of metabolic changes. However, the reinforcement of the stapler line by omentopexy is more reliable in regards to complications.

O-269

NON-RESPONSE AFTER GASTRIC BYPASS AND SLEEVE GASTRECTOMY – THE THEORETICAL NEED FOR REVISIONAL BARIATRIC SURGERY RESULTS FROM THE SCANDINAVIAN OBESITY SURGERY REGISTRY

Revisional surgery

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Background:

Revisional surgery is a second-line treatment option after sleeve gastrectomy (SG) and gastric bypass (GBP) in patients with primary or secondary non-response. This study is an analysis of the theoretical need for revisional surgery when applying four indication benchmarks.

Objective:

The aim was to analyze the risk for primary and secondary non-response after SG and GBP.
Setting: 44 hospitals in Sweden

Methods:

Based on data from the Scandinavian Obesity Surgery Registry, SG and GBP were compared regarding four endpoints: 1. Excess Weight Loss (%EWL) < 50%; 2. weight regain of more than 10 kg after nadir; 3. fulfillment of IFSO-guidelines; or 4. ADA-criteria for bariatric surgery two years after primary surgery.

Results:

60 426 individuals were included in the study (SG: n=7856 and GBP: n=52 570). Compared to patients in the GBP-group, more SG patients failed to achieved a %EWL > 50% (23.0% versus 8.5%, $p < .001$), regained more than 10 kg after nadir (4.3% versus 2.5%, $p < .001$), more often fulfilled the IFSO-criteria (8.0% vs. 4.5%, $p < .001$) or the ADA criteria (3.3% vs. 1.8%, $p < 001$) for bariatric/metabolic surgery at the 2-year follow-up.

Conclusions:

SG is associated with a higher risk for primary and secondary non-response compared to gastric bypass. To offer revisional bariatric surgery to all non-responders exceeds the bounds of feasibility and operability. Hence, individual prioritization and intensified evaluation of alternative second-line treatments is necessary.

O-270
NOVEL THERAPY FOR REMISSION OF DIABETES FOR RELAPSE AFTER BARIATRIC SURGERY

Multidisciplinary care (primary care, medical management)

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Introduction:

Bariatric Surgery is known to induce remission of type 2 diabetes (T2DM). However, relapse of diabetes after a few years is known. There is a lack of standard guidelines for treatment of such relapse. The pilot study aims to add a novel therapy regimen for the relapse.

Objective:

To offer novel therapy option for treatment of relapse of T2DM.

Methods:

42 patients with relapse of T2DM, more than 5 years after primary bariatric surgery, (28 Sleeve gastrectomy ,8 RYGB,6 OAGB) , mean age 48yrs with 20 Males and 22 Females , mean BMI at relapse 33.2kg/m2 were offered 6 weeks of meal replacement with dapagliflozin 10 mg once a day, Liraglutide 1.8mg daily. Mean HbA1c prior to therapy was 8.4 % with Mean fasting and post prandial blood sugar levels (BSL) of 198 mg/dL and 240 mg/dL respectively. They were followed for weight, BMI, BSL fasting and post prandial prospectively.

Results:

Mean BMI after 6 weeks dropped to 30.1 kg/m2 +/- 2.1 with BSL fasting and postprandial 100 mg/dL and 165 mg/dL respectively and mean HbA1c 6.1%.

Discussion:

6 weeks of very low-calorie diet (VLCD) is published to offer temporary remission of diabetes. We offered a novel concept of offering 6 weeks VLCD with newer pharmacotherapy with dapagliflozin and liraglutide for rapid remission of diabetes. Re-remission is possible even for relapse of T2DM after bariatric surgery.

Conclusion:

6 weeks VLCD is sustainable after bariatric Surgery with the use of newer medication like SGLT2 inhibitors and GLP1RA. This therapy offers a newer modality of rapid improvement of T2DM and even up to partial remission. Further research may be necessary.

O-271

OAGB/MGB, WHAT HAVE WE LEARNED

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

(OAGB/MGB) has been proposed and Described by Rutledge on 1997.He published his initial experience of 1274 patients in 2001 with excellent outcome, it is very safe initially and in the long term. It has reliable weight loss and complications similar to other forms of Gastric Bypass. However, (OAGB/MGB) is still debated due to long term risks associated with potential biliary reflux esophagitis and marginal Ulcers. Another point of debate is the nutritional consequences and long term risk of gastric and esophageal cancer.

Objectives:

Our objective is to review the OAGB/MGB procedures performed in our center Badana clinic between 2017- 2021 since we have made some technical changes with improved selection criteria. And compare it to the initial experience of OAGB/MGB procedures performed in the same center between 2013-2017.

Methods:

The study was obtained from our respectively maintained database and Hospital computerized records.

Results:

A total of 934 patients underwent (OAGB/MGB) in Our Center between March 2013 and July 2017. We have studied 693 Patients (74%).there were 42 patients with marginal Ulcers (6%) 8 patients presented with acute abdomen and perforations. 4 patents had bleeding Ulcers and 5 patients had severed Bile Reflex (0.72%) Required Conversion to RYGB.

We compared these finding to those patients who underwent(OAGB/MGB) between August 2017 and December 2021 following important modifications in the surgical techniques with improved selection criteria.

Conclusion:

Despite thousands of published cases, (OAGB/MGB) continues to be controversial. Major concerns for many surgeons related to troublesome symptomatic marginal ulcer, biliary reflux and/or potential risk of gastric/Esophageal cancer. We have learned from our own experience that surgical technique and carful approach with better selection criteria can lead to significant reduction in these potential problems.

O-272
OBESITY SURGERY IN PATIENTS WITH END-STAGE ORGAN FAILURE

Pre and post transplantation and bariatric surgery

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Background:

Obesity surgery is a safe and established therapy for patients with obesity and associated diseases. However, little is known about the long-term outcomes of patients with end-stage organ failure undergoing obesity surgery.

Objective:

The aim of this study was to investigate the perioperative and long-term outcomes of patients with end-stage organ failure undergoing obesity surgery. The indication for obesity surgery in these end-stage organ failure patients (ESOF) was to improve organ function or to achieve eligibility for transplantation. ESOF were compared with matched obese patients without end-stage organ failure.

Methods:

1094 patients undergoing obesity surgery from 2006-2019 were retrospectively screened. Inclusion criteria were left ventricular ejection fraction <30%, continuous oxygen/non-invasive ventilation (NIV) therapy, liver cirrhosis or kidney failure stage 4/5. ESOF were matched for age, gender, BMI, operation type, diabetes, arterial hypertension, and sleep apnea with patients without advanced organ failure.

Results:

27 ESOF patients (56% female) were identified with a mean age of 50.3±8.6 and mean BMI of 53.8±8.7kg/m2. Matched patients had a mean age of 47.2±8.9 and a mean BMI of 51. 7±7.7kg/m2. 85% had a sleeve gastrectomy. ESOF had major complications (Clavien-Dindo ≥3) in 11% vs. 4% in matched patients (p=0.299). One ESOF died postoperatively due to cardiac failure and a staple line leak (4%) vs. none in the other group. Total bodyweight loss was 22% vs. 28% vs. after 24 months (p=0,182) with equal improvement of comorbidities. Depression scores of ESOF decreased from 12.4±7.2 to 5.4±5.7 (p=0.004). Overall survival over 6 years in the high-risk group was 85%. Therapy goal (cessation continuous oxygen/NIV therapy) was achieved in 20% in patients with end-stage lung disease while the success rate for other diseases was ≥50%. However, lung function remained stable or improved in all patients.

Conclusion:

Despite end-stage organ failure and a significantly reduced life expectancy, long-term survival was 85%. While lung disease had the lowest complete resolution rate, lung function still improved or remained stable. Patients with end-stage organ failure should not be precluded from obesity surgery but further investigations which patients' benefit are necessary.

O-273
OBSERVATIONAL STUDY ABOUT ENDOSCOPIC FINDINGS AFTER BARIATRIC SURGICAL PROCEDURES BASED ON SLEEVE GASTRECTOMY

Endoscopy and surveillance after bariatric surgery

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Background:

Gastroesophageal reflux disease (GERD) can develop de novo or be exacerbated after certain bariatric procedures, being more frequent in those based on the sleeve gastrectomy´s technique, such as laparoscopic sleeve gastrectomy (LSG) employing a narrow bougie and single anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) made on a thicker one.

Objectives:

Compare postoperative endoscopic findings between LSG and SADI-S.

Methods:

Acohort study of patients undergoing SADI-S or LSG between January 2007 and December 2017 in whom endoscopy was performed during follow-up. Data related to demographic data, time between surgery and endoscopy, endoscopy´s indication and endoscopic findings were collected retrospectively. Esophagitis was graded according to the Los Angeles classification.

Results:

250 patients were reviewed in each group. In the SADI-S group, 65 patients (26%) were submitted to endoscopy during postoperative follow-up, comparing to 72 patients (28.8%) in the case of the LSG group. Both groups were comparable according to the demographic characteristics. Data related to the time between surgery and endoscopy, endoscopy´s indication and endoscopic findings were collected retrospectively and summarized in table 1.

Statistically significant differences were identified in the indication of the endoscopic exploration, which was performed with more frequency due to the presence of GERD symptoms in the SADI-S group (p=0,012). By contrast, the analysis revealed no statistically significant differences between the time between surgery and endoscopy, and the endoscopic findings, including the severity of the esophagitis. However, when classifying esophagitis as mild or severe, we found mild esophagitis was more frequent in the LSG group, showing statistical significance (p=0,048).

Conclusion:

the use of a thinner calibration bougie in the LSG group seems to have induced a higher incidence of mild esophagitis when comparing to the SADI-S group.

Endoscopic founds	SADI-S (n=65)	LSG (n= 72)	p
Time between surgery and endoscopy (months)	54,11 ± 36,25	47,76 ± 29,03	0,258
GERD symptoms (endoscopy´s indication)	24	42	0,012
Normal endoscopy	54	54	0,248
Grade A esophagitis	3	9	0,103
Grade B esophagitis	4	8	0,305
Mild esophagitis (A + B)	7	17	0,048
Grade C esophagitis	2	0	0,134
Grade D esophagitis	2	1	0,500
Severe esophagitis (C + D)	4	1	0,138
Barrett's esophagus	0	0	
Hyatal hernia	15	25	0,134

O-274

OMENTAL TORSION AND NECROSIS AFTER ANTECOLIC ROUX EN Y GASTRIC BYPASS CAUSING ACUTE ABDOMINAL PAIN.

Endoscopic and percutaneous interventional procedures

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Introduction:

Omental torsion and subsequent necrosis of the omentum presenting with acute abdominal pain after ante-colic Roux-en-Y gastric bypass is rare. A common practice during ante-colic gastric bypass is to vertically divide the omentum (splitting the omentum) from its distal edge, caudad, up to the transverse colon cephalad, in order to facilitate the passage of the roux limb to the pouch. This leaves two leaflets of omentum on each side of the roux limb at the end of the procedure.

Objective:

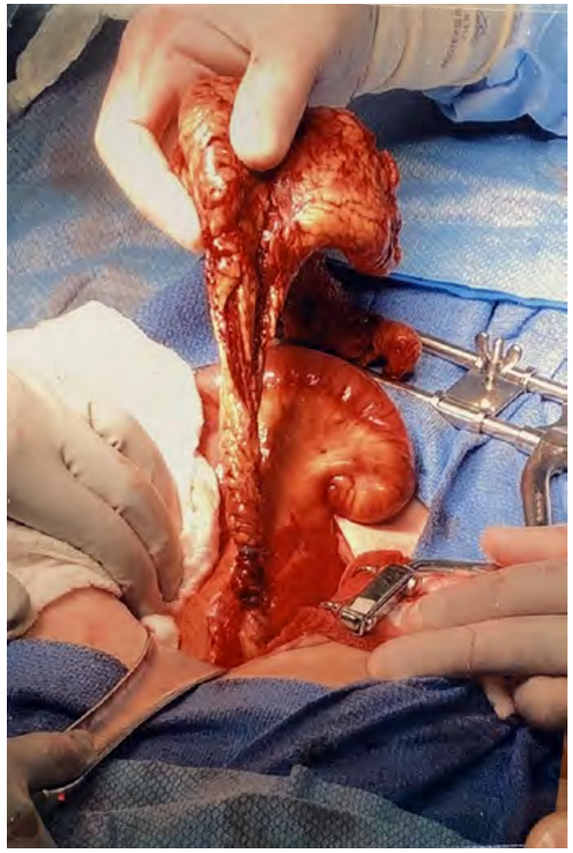
After significant weight loss, these leaflets of omentum can become relatively thin and mobile. They are hence prone to adhesions in the abdominal cavity and can potentially volvulize in a 360-degree fashion. This can cause omental ischemia and possibly necrosis. This can present with either acute or chronic abdominal pain. The diagnosis can be challenging. Treatment requires surgical exploration. This complication can potentially be avoided by changing ones technique at the index operation. A omental “window” can be created as opposed to longitudinally dividing the omentum, to avoid the risk of torsion.

Method:

Here we describe a 48 yr old female who underwent a laparoscopic ante-colic, ante-gastric Roux-en-Y gastric bypass 5 yrs ago for morbid obesity. She had significant post-operative weight loss. She presented to the ER with 48 hrs of worsening lower abdominal pain. On exam she had tenderness in the lower abdomen. Normal WBC. Pre-operative CT scan was consistent with encapsulated fat necrosis in the cul-de-sac measuring 5.4 cm x 17cm, with edema in the mesentery. She was taken to the OR for exploration, which revealed torsion of the omentum at the level of transverse colon with omental necrosis. Partial omentectomy was performed without complications.

Conclusion:

Omental torsion and subsequent necrosis has been reported as a cause of chronic and acute abdominal pain in patient after ante-colic RYGB. This is a rare complication after Roux-en-Y gastric bypass and can present a diagnostic challenge. To avoid this complication, we recommend creating a wide window in the omentum, close to the transverse colon, as opposed to dividing the omentum longitudinally. This can potentially avoid torsion of the omentum from twisting around a thin pedicle, and at the same time provide enough room to facilitate small bowel work during the gastric bypass.



O-275

ONE ANASTOMOSIS GASTRIC BYPASS WITH A 150 CM BILIOPANCREATIC LIMB VS A 200 CM BILIOPANCREATIC LIMB; A SYSTEMATIC REVIEW AND META-ANALYSIS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Obesity has been a pandemic with a continuously rising prevalence all over the world. One anastomosis gastric bypass (OAGB) is one of the most widely accepted bariatric surgery procedures owing to its simplicity and proposed efficacy and safety. Up till now, no optimal biliopancreatic limb (BPL) length has been standardized in the OAGB operation. However, the latest IFSO Consensus Conference has recommended a BPL of 200 cm or less for OAGB to achieve a balance between effectiveness and safety.

Objective:

The present study aimed to assess the impact of performing OAGB with a 150-cm BPL versus a 200-cm BPL in terms of weight loss, comorbidities remission, and adverse nutritional effects.

Methods:

This is a systematic review and meta-analysis that involved searching on the EMBASE, PubMed central database, and Google scholar for studies evaluating the impact of performing OAGB with a 150-cm BPL versus a 200-cm BPL concerning weight loss, comorbidities remission, and adverse nutritional effects.

Results:

The pooled analysis revealed favoring the 200-cm BPL limb length for weight loss, with a highly significant difference in the TWL% (p=0.009). Both groups showed comparable comorbidities remission and nutritional deficiency rates.

Conclusion:

Considering a 200-cm BPL delivers a better weight loss outcome than a 150-cm BPL, with no significant differences regarding comorbidities remission or nutritional deficiency.

Table 1: The included studies and patients characteristics

Study	Boyle & Mahawar [15]	Omar et al [16]	Pizza et al [17]	Jedamzic et al [19]	Slagter et al [9]	Sam et al [18]	Samuel et al [14]
Year	2020	2021	2020	2020	2021	2022	2019
Type of study	pective analysis of the prospective hospital database						
Follow up (months)	24	24	24	24	24	36	.2
150-cm group (n)	118	171	60	11	172	171	.78
200-cm group (n)	225	234	60	93	72	234	110
Both groups (n)	343	405	180	155	244	405	188
Females: n (%)	232 (67.6)	275 (67.9)	117 (65%)	111 (71.6)	199 (81.6)	275 (67.9)	127 (67)
Mean age	46.3±12.8	46 ± 10.98	35.2 ± 9	45 ± 4.5	48 ± 11	46 ± 10.98	46.5±7.25
Baseline weight	137.6	139±29.96	119.9±28.9	128.5(92-196)	124±17	139±29.96	NA
Baseline BMI	48.39	49±8.14	44.93±7.56	45.1(33.1-71.1)	44±4	49±8.14	44±2.75
200-cm group EWL%	75± 20.1	NA	61.2 ± 12.1	82.2 ± 24.8	75 (59–81)	76.46±20.1	68(53-83)
150-EWL% mean	74± 22	NA	60.7 ± 16.1	63.2 ±17.0	83 (65–99)	75.02+21.35	67(53-80)
200-TWL% mean	36.1 ± 9.2	NA	41.8 ± 8.9	34.5 ± 9.4	34 (28–38)	36.15±9.19	NA
150-TWL% mean	34 ± 9.8	NA	40.7 ± 9.4	33.1 ± 5.2	29 (23–36)	34.12+9.49	NA
Diabetes mellitus remission: n (%)							
200-cm group	29 (46)	NA	5 (50)	NA	13 (87)	NA	NA
150-cm group	12 (46.2)	NA	5 (45.5)	NA	21 (68)	NA	NA
Diabetes mellitus improvement: n (%)							
200-cm group	24 (38)	NA	3 (30)	NA	2 (13)	NA	NA
150-cm group	13 (50)	NA	2 (18.2)	NA	10 (32)	NA	NA
Hypertension remission: n (%)							
200-cm group	28 (33.7)	NA	17 (53.1)	NA	10 (48)	NA	NA
150-cm group	21 (42.9)	NA	18 (52.9)	NA	28 (49)	NA	NA
Hypertension improvement: n (%)							
200-cm group	24 (28.9)	NA	NA	NA	11 (52)	NA	NA
150-cm group	11 (22.4)	NA	NA	NA	25 (42)	NA	NA
30-days reoperation: n (%)							
200-cm group	2 (0.89)	NA	1 (1.67)	NA	NA	NA	NA
150-cm group	0 (0)	NA	2 (3.33)	NA	NA	NA	NA

Authors	Boyle & Mahawar [15]	Omar et al [16]	Pizza et al [17]	Jedamzic et al [19]	Slagter et al [9]	Sam et al [18]	Samuel et al [14]
Low serum protein: n (%)							
200-cm group	NA	NA	5 (59.6)	23 (38.3)	NA	NA	NA
150-cm group	NA	NA	3 (5.7)	2 (28.6)	NA	NA	NA
Low serum albumin: n (%)							
200-cm group	2 (0.92)	3 (2.53)	5 (3.8)	2 (3.3)	NA	3 (2.53)	NA
150-cm group	2 (1.8)	4 (2.29)	2 (1.9)	2 (2.9)	NA	4 (2.29)	NA
Low serum ferritin: n (%)							
200-cm group	NA	18 (14.75)	4 (21.1)	19 (33.9)	NA	NA	NA
150-cm group	NA	14 (11.97)	7 (13.4)	1 (14.3)	NA	NA	NA
Low serum folate: n (%)							
200-cm group	NA	18 (13.24)	NA	2(3.6)	NA	NA	NA
150-cm group	NA	11 (9.6)	NA	0 (0)	NA	NA	NA
Low serum vitamin B12: n (%)							
200-cm group	NA	1 (0.71)	4 (7.6)	1 (1.7)	NA	NA	NA
150-cm group	NA	0 (0)	3 (5.7)	0 (0)	NA	NA	NA
High serum parathyroid hormone: n (%)							
200-cm group	NA	64 (46.38)	NA	15 (26.3)	NA	NA	NA
150-cm group	NA	45 (40.91)	NA	3 (42.9)	NA	NA	NA
Low serum vitamin D: n (%)							
200-cm group	NA	6 (4.41)	7 (13.4)	45 (76.3)	NA	NA	NA
150-cm group	NA	4 (3.57)	6 (11.5)	6 (85.7)	NA	NA	NA

Table 2: Comparison between both groups in the nutrients deficiency rates

O-276

ONE ANASTOMOSIS GASTRIC BYPASS AS A REVISIONAL PROCEDURE AFTER FAILED PRIMARY RESTRICTIVE BARIATRIC OPERATIONS

Revisional Surgery

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Introduction:

Bariatric surgery is currently the most effective long-term treatment for obesity and its associated comorbidities. Primary restrictive procedures such as Vertical Banded Gastroplasty (VBG), Laparoscopic Adjustable Gastric Banding (LAGB), Greater Curve Plication (GCP) and Laparoscopic Sleeve Gastrectomy (LSG), are simple, safe, & effective procedures for weight reduction. However, patients who underwent these procedures are at risk of having insufficient weight loss and weight regain as well as other complications, which can be an indication for revisional surgery. Roux-en-Y gastric bypass (RYGB) is currently considered the golden standard revisional procedure. One Anastomosis Gastric Bypass (OAGB) has been described as an alternative to RYGB, due to its relative technical simplicity & easy reversibility. Several studies showed the efficacy of OAGB as a revisional procedure, in terms of weight loss and resolution of comorbidity. However, most of these studies are small, so solid conclusions can't be drawn from them.

Objectives:

The aim of this study is to assess the safety and effectiveness of laparoscopic OAGB for management of weight loss failure or weight regain after primary restrictive bariatric procedures.

Methods:

A prospective interventional study was conducted between July 2016 - July 2021 at Ain Shams University Hospitals, Cairo, Egypt. The study included patients with failed primary restrictive bariatric procedures. All the patients were converted to OAGB with minimal follow-up of two years.

Results:

124 patients were included in the final analysis of the study (26 after LSG, 56 after VBG, 31 after LAGB, and 11 after GCP. The mean operative time was 155.3 ± 20.6 minutes and the rate of conversion to open surgery was 3.2%. The rate of early postoperative complications was 7.6% (2.4% for leakage) and the reoperation rate was 1.6%. The rate of late postoperative complications was 10.6% (4% symptomatic biliary reflux). The EWL% was 49.74 ± 12.36 % after one year and 60.56 ± 14.15 % two years after the operation. There were no cases of weight loss failure during the study period. Significant improvement of obesity related comorbidities was recorded after 2 years of follow-up with remission rates of 84.6% for DM, 75.7% for dyslipidemia, 66.2% for sleep apnea, and 64.7% for hypertension.

Conclusion:

OAGB is a safe and effective revisional procedure for management of weight loss failure after restrictive procedures.

O-277

ONE ANASTOMOSIS GASTRIC BYPASS AS A SECOND PROCEDURE

Revisional surgery

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Introduction:

As the bariatric surgical field advances and some patients are experiencing partial or total failure of their first procedures, it's important to look for alternatives. The one anastomosis gastric bypass is a relatively new procedure that has been gaining acceptance worldwide, its role as a second procedure still to be determined.

Objective:

To evaluate if OAGBP is a good alternative as a redo procedure in patients with a failed or insufficient procedure (either band or Sleeve).

Patients and Methods:

Retrospective study with a follow up in the clinic of all of the patients. the results shown are from the 65 patients reviewed (out of 76 performed between 2013 to 2017, 11 were lost to follow up).

Results:

The average age was 36 years with a range from 18 to 52

33% (21) males and 67% (44) females.

The average follow up was 41 months

Average exes weight loss in last follow up was 74% (from Wt before any procedure)

Diabetes remission was 62% with all the remaining improving.

All comorbidities except GERD improved or resolve

Significant increase in GERD and Iron deficiency was observe

Conclusion:

OAGB appears to be an effective operation even as a redo procedure in terms of weight loss and comorbidities control. Specially DM

There seems to be more weight loss in the patients after combination of sleeve /OAGB than those of band/OAGB.

Increase GERD and iron deficiency is concerning

Longer follow up and a larger amount of cases are required to assess the consistency

O-278

ONE ANASTOMOSIS GASTRIC BYPASS FOR REVISION OF RESTRICTIVE BARIATRIC PROCEDURES: MID-TERM OUTCOMES

Revisional surgery

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Background:

The optimal revisional bariatric surgery (RBS) for restrictive procedures is challenging. One Anastomosis Gastric Bypass (OAGB) is considered an accepted, safe and effective bariatric procedure. Its role as RSB is being investigated.

Objectives:

To examine the mid-term outcomes of OAGB as RSB for restrictive procedures: laparoscopic assisted gastric banding (LAGB), sleeve gastrectomy (SG), and silastic ring vertical gastroplasty (SRVG).
Setting: Large, metropolitan, tertiary, university hospital.

Methods:

Retrospective analysis of consecutive patients who underwent OAGB as RBS (January 2015-October 2018) was performed. Inclusion criteria included: 1. Indications were insufficient excess weight loss (EWL), or significant weight regain. 2. Available mid-term outcomes. The %EWL, % total weight loss (TWL) and obesity-associated medical problems were evaluated and compared between the primary procedures. There were 329 patients. Of them 126 were excluded, 30.7% were lost to follow up.

Results:

A total of 203 patients were included. Revisional OAGB was performed after LAGB, SG, and SRVG in 125, 64, and 14 patients, respectively. The mean time interval to was 10.9±4.8, 5.5±3.6, and 17.1±5.6 years, respectively (p<0.001). Mean age at revision was 45.7±10.3, 42.4±11.7, and 49.4±6.8 years (p=0.03), and mean body mass index (BMI) was 41.3±6.6, 42±11.2, and 41.7±8.7 kg/m2 (p=0.86), respectively. Mean mid-term follow up was 48.6±11.7, 50±11.6, and 49.4±11.6 months, respectively. The mean %EWL and %TWL achieved for LAGB, SG, and SRVG were 51.6±35.5 and 25.1±17.6, 50±35.3 and 24.2±17.3, and 49.7±24.4 and 22.7±10.3, respectively (p=0.94 and 0.85). There was no significant difference in terms of Type 2 diabetes resolution. There were significantly more patients that stopped consuming anti-hypertensive medications following in the revisional after SG group (p<0.001).

Conclusion:

Revision OAGB after restrictive bariatric procedures achieves effective weight loss reduction and improvement of obesity associated medical problems in mid-term follow-up.

O-279

ONE ANASTOMOSIS GASTRIC BYPASS IN 6,722 PATIENTS: EARLY OUTCOME RESULTS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

One Anastomosis Gastric Bypass (OAGB) is rapidly gaining wide acceptance. IFSO OAGB taskforce concluded that it appears at least equivalent to other bariatric surgery procedures in terms of operative time and perioperative complications.

Objectives:

To evaluate short-term (< 30 days post-surgery) safety, efficacy, and adverse events of OAGB.

Methods:

Data was collected for all OAGB procedures, performed between January 2017 and December 2021, at a high-volume bariatric center in Israel. Data included patients' demographics, comorbidities, perioperative and early postoperative outcomes.

Results:

A total of 6,722 patients were identified. Mean age was 40.6±11.5 years, 75% were females, and mean preoperative body mass index (BMI) was 41.24.6 kg/m2. Mean operating time was 67.3±26.6 minutes, and the mean length of stay was 2.2±1.4 days. OAGB was a primary procedure in 74.1% of patients, while previous bariatric procedures as LAGB, LSG, and VBG were performed in 17.5%, 7.1%, and 1.2% of patients, respectively. Additional procedures were performed in 31.5% of the patients, of which laparoscopic removal of gastric band (n=947, 14.1%), laparoscopic cholecystectomy (n=811, 12.1%) and laparoscopic repair of hiatal hernia (n=534, 7.9%) were the most common.
In 258 (3.8%) of the patients, early adverse events were noted and included mainly: bleeding (2%), leaks (0.5%), and obstruction (0.3%). In most cases conservative treatment was successful, however 63 patients (0.9%) needed reoperation for either bleeding (n=26, 0.4%), obstruction (n=15, 0.2%) or leak (n=22, 0.3%). Mortality rate was 0.03% (2 cases). Early readmission and reoperation rates were 1.9% and 0.9% respectively.

Conclusion:

OAGB is a safe primary and revisional bariatric surgery. The most common adverse events were gastrointestinal bleeding, leaks, and obstruction. However, in most cases conservative treatment was successful.

O-280

ONE ANASTOMOSIS GASTRIC BYPASS VS SLEEVE GASTRECTOMY: A SINGLE INSTITUTION STUDY WITH SIX YEARS FOLLOW-UP

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy (LSG) is currently the most popular metabolic procedure worldwide. One anastomosis gastric bypass (OAGB) is rapidly emerging as a safe and effective metabolic procedure. It is currently the third most common bariatric metabolic procedure worldwide. However, there are only a few reports comparing these two operations.

Objective:

Comparison between OAGB and LSG with the primary end point being weight-loss and the secondary endpoints looking at complications and resolution of comorbid conditions.

Method:

This retrospective comparative data study was conducted using prospectively maintained data on patients who underwent either OAGB or LSG at a single institution from 2011 through 2013. Data on the patients' profile, comorbid conditions, peri operative complications, weight loss, long term complications, nutritional deficiencies, and resolution of comorbid conditions was collected, reviewed and analyzed.

Results:

Four hundred and fourteen (414) patients were identified who underwent a primary OAGB and 1096 who underwent an LSG. The mean age and body mass index (BMI) were 44.18 and 43.70 yrs. and 45.69 and 43.51kg/m2 for OAGB and LSG groups respectively. Pre-operatively, the incidence of type 2 diabetes (T2D), hypertension (HTN) and obstructive sleep apnea (OSA) in the OAGB group was higher than in the LSG group. (43.7, 55 and 85.7%, and 17.6, 45.2, and 69.3% respectively). At the six-year follow up, the percentage of total weight loss (%TWL) was 33.8 and 20.3%, for the OAGB and the LSG group respectively. Resolution rate of T2D, HTN and OSA was 89, 80.3 and 93.5% and 63.2, 57.4, and 71.5% in the OAGB group and LSG group respectively. The incidence of nutrient deficiencies in OAGB group was higher than in the LSG group (p=0.001). The incidence of major complications was similar in both groups. Whereas only two patients had revision surgery in the OAGB group, both because of excessive weight loss and none because of inadequate weight loss or for weight regain, 74 patients had revision surgery in the LSG group for either inadequate weight loss or for weight regain. There was 1 death in the LSG group from a pulmonary embolism.

Conclusion:

In this study, both OAGB and LSG were effective and relatively safe bariatric metabolic operations. However, OAGB resulted in more sustained weight loss and better resolution of comorbid conditions than LSG at the cost of more nutritional deficiencies.

O-281

ONE-ANASTOMOSIS-GASTRIC-BYPASS AS A REVISIONAL PROCEDURE FOLLOWING SLEEVE GASTRECTOMY: A REVIEW OF CURRENT LITERATURE

Revisional surgery

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Introduction:

Sleeve gastrectomy (SG) is the most common bariatric procedure worldwide as per the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) registry. In 2019, the 1st consensus statement on revisional bariatric surgery (RBS) was published and one anastomosis gastric bypass (OAGB) was chosen as an accepted procedure after failed SG in addition to other procedures.

Objective:

To study the up-to-date literature discussing the outcomes of OAGB as a revisional surgery following a failed SG.

Methods:

We reviewed all articles published in English Language and talking about failed SG, indications of revisional surgery after it, types of surgical options and comparison between them; with special emphasis on OAGB as a revisional procedure.

Results:

The most up to date systematic review of SG showing mid and long-term results includes 6665 patients and showed that the pooled incidence of revisional surgery after SG was 10.4%. The incidence of revisions was 7.4% at 3–5-year follow-up which increased to 22.6% with≥10-year follow-up and the main cause of revision is failure in weight loss, followed by gastro-esophageal reflux disease (GERD). OAGB was selected as an acceptable option for revising failed SG with comparable outcomes to other procedures. The technique involved the same basic steps of primary OAGB with some minor changes. Post operative complications were similar to those of primary OAGB.

Conclusion:

Current literature identifies OAGB as an acceptable revisional procedure for SG. It showed to be safe and effective with no risks of increase postoperative complications as compared to other previsional procedures or primary OAGB.

O-282

ONE YEAR EXPERIENCE OF COVID-19 RESPONSE IN BARIATRIC POST-OP PATIENTS. RESULTS WITH 1.528 CONSECUTIVE PATIENTS OPERATED IN A SINGLE REFERENCED BRAZILIAN SRC CENTER

Basic science and research in bariatric surgery

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Introduction:

Coronavirus disease (COVID-19) is a current pandemic outbreak caused by the latest coronavirus now called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Obesity is a strong independent risk factor for hospitalization in COVID-19 and it causes or exacerbates a variety of comorbidities that have been proven associated with increased morbidity and mortality among COVID-19 patients. The gold standard treatment for obesity is bariatric surgery, which causes remission of comorbidities and weight loss. Recent studies show that bariatric surgery decreases the risk of serious complications of SARS-CoV-2.

Objective:

To analyze the evolution of COVID- 19 diagnosed during the first 30 days of bariatric surgery.

Methods:

Observational study of 1.528 consecutive patients submitted to Laparoscopic Roux-en-Y Gastric Bypass, Sleeve Gastrectomy and Revisional Surgery in a SRC credited center in São Paulo, Brazil, between April 2020 and April 2021. All patients followed the institution's protocol, underwent a CRP (C - reactive protein) exam 72 hours before surgery, and were all-negative. In addition, we considered positive cases for COVID-19 for those who presented clinical symptoms associated with a positive CRP test.

Results:

The results were 17 patients (1,1%) diagnosed positive for COVID-19 in the first 30 days of bariatric surgery. 15 (1%) of the patients had mild symptoms associated with positive CRP. 2 (0.1%) patients were hospitalized. 100% patients was not admitted in the Intensive Care Unit (ICU), neither required oro-tracheal intubation.

Conclusion:

Among obese patients who underwent bariatric surgery and acquired COVID-19 in the first 30 days of postoperative, 99% of patients presented mild symptoms with no need of hospitalization. We conclude that bariatric and metabolic surgery is safe and reproducible in this pandemic period of COVID-19 when performed and followed by specific safety protocols.

O-283

OPTIMAL COMMON LIMB LENGTH IN ROUX-EN-Y GASTRIC BYPASS SURGERY - IS IT IMPORTANT FOR AN IDEAL OUTCOME? – A SYSTEMATIC REVIEW

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

There is an increasing interest surrounding the optimal and safest limb lengths required in Roux-en-Y Gastric Bypass (RYGB) surgery to reduce postoperative nutritional deficiencies whilst obtaining the ideal weight loss outcome. In particular, the Common limb length (CLL) is thought to significantly impact on nutritional and metabolic outcomes, however it is not routinely measured.

Objectives:

This review aimed to examine the literature and determine the effect of variations of CLL in RYGB patients' post-operative weight loss, metabolic and nutritional outcomes.

Methods:

The Cochrane Library, PubMed and Medline databases were searched using a variety of key terms in accordance with the PRISMA guidelines. All English language articles addressing CLL and impact on weight loss, nutritional and metabolic outcomes were retrieved and reviewed.

Results:

13 relevant studies were identified including one RCT, six prospective cohort studies, six retrospective cohort studies and one retrospective comparative study. The majority of alimentary limbs were 100 to 200cm with biliopancreatic limbs and CLLs varying from 50 to 75cm, and 76 to >600cm respectively. The majority of studies did not observe significant difference in total body weight loss or excess weight loss with varying CLLs. On the other hand, the majority did observe significant improvements in diabetes, hypertension and hypercholesterolaemia with shorter CLLs. Nutritional deficiencies (especially protein) were more severe when the CLL was <400cm.

Conclusion:

In RYGB there exists an ongoing debate regarding the optimal CLL required to optimise weight outcomes whilst preventing postoperative nutritional complications. The data from this systematic review suggests that reasonable weight loss and positive impacts on metabolic outcomes can be safely achieved with bypasses with CLLs of >450cm.

O-284

ORAL ANTI DIABETIC MEDICATION USAGE IN PATIENTS WITH OBESITY AND TYPE 2 DIABETES AFTER SUTURELESS DUODENO-ILEAL DIVERSION WITH SELF-ASSEMBLING MAGNETS

Emergent technology, new nonstandard and bariatric surgery

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Background:

Obesity is the main modifiable risk factor for type 2 diabetes (T2DM). Obese patients with T2DM often require multiple oral antidiabetic drugs (OADs) for adequate glycemic control.

Objectives:

We aimed to determine the effect of a novel duodeno-ileal anastomosis with self-assembling magnets on the usage of OADs.

Methods:

We conducted an open-label, prospective, single-arm study including obese patients (BMI 30-50 kg/m2) with T2DM. The ileal magnet was deployed laparoscopically and the duodenal magnet was deployed endoscopically. Both magnets were coupled under laparoscopic and fluoroscopic guidance. The primary endpoints were HbA1c reduction and weight loss at 12 months. The secondary endpoint was percent reduction of OADs used at 12 months.

Results:

A total of 8 patients were included; median age was 51.5 (34-65) years and median BMI was 38.8 (35-47.9) kg/m2. There was no major postoperative morbidity related to the procedure. Magnets were expelled at a median of 29.5 days after the procedure with no associated complications. HbA1c reduced below 7.0% in 6 (75%) patients ($p<0.05$) and greater than 5% total body weight loss was observed in 7 (87.5%) patients at 12 months (<0.05). The mean number of OADS were 1.9 (1-4) and 1.1 (0-3) at baseline and 12 months, respectively (42% reduction, $p=0.10$). There was a 65% total reduction in total OAD (mg) ($p<0.001$). 82% T2D medication reduction (excluding Metformin) ($p=0.10$). Two patients (25%) were free of OADs 12 months after the procedure.

Conclusions:

Duodeno-ileal anastomosis with self-assembling magnets in obese patients with T2DM is associated with reduction in the number of OADs used, decreased HbA1c levels, and weight loss.

O-285

OUTCOME EVALUATION OF REVISIONAL SURGERY FOR MALNUTRITION FOLLOWING SADI-S

SADIs

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Introduction:

Single anastomosis duodenoileal bypass with sleeve gastrectomy (SADI-S) has demonstrated good results in weight loss and control of comorbidities. However, as a hypo absorptive technique, malnutrition could be a serious complication and may require revisional surgery.

Objectives:

The aim was to evaluate the results of revisional surgery to treat malnutrition after SADI-S.

Methods:

A retrospective case series study was conducted in a high-volume hospital, including all patients who underwent revisional surgery for severe protein-calorie malnutrition refractory to conservative treatment after 450 SADI-S between May 2010 and June 2020. Patients underwent revisional surgery represented 3,3% of the complete series of SADI-S performed in our center during follow-up. Every patient had undergone SADI-S as primary bariatric surgery with a mean BMI of 44.64 kg/m2. The length of the common limb in primary SADI-S was 200 cm in 7 patients and 250 cm in the rest of them.

Results:

15 (3,3%) patients were operated on revision surgery after a mean of 4,1 years from primary surgery. Mean age was 54,3 years, 60% of the patients were women and the mean BMI was 21.23 kg/m2. 14 patients had required previous hospitalization for malnutrition. The mean number of bowel movements per day was 5,2. In 10 cases common channel lengthening was performed (3 to 300 cm and 7 to 350 cm); and in 3 of these patients a re-sleeve was also performed. The rest of the interventions were 3 duodenojejunal Y-Roux bypass (two patients with 350 cm of common channel and another with 400 cm), and two SADI-S reversals. All surgeries were made laparoscopically except for one SADI-S reversal. In every patient a complete measurement of the bowel and common channel was done. The average hospital stay was 7 days. All patients gained weight and achieved improvement of nutritional deficits, except one patient who required a second revision surgery due to persistent malnutrition and intermittent intestinal occlusion. The mean number of bowel movements decreased to 1,3 and the mean BMI increased by 27,1 kg/m2. Mean follow-up was 4,0 years.

Conclusion:

Adequate patient selection in primary surgery, as well as close postoperative follow-up are fundamental variables in the prevention and early treatment of nutritional deficits after malabsorptive bariatric surgery. Revisional surgery after SADI-S is an effective technique to treat severe malnutrition in case of failure of conservative treatment.

O-286

OUTCOME OF NARROW SLEEVE SADI-S WITH COMMON CHANNEL 350 CM

SADIs

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Objective:

To evaluate the safety, efficacy and to compare the quality of life of patients after SADI-S with a long common loop of 350 cm and SLEEVE.

Methods:

A comparison was made of 280 cases using SADI-S with a total loop length of 350 cm with 320 cases of SLEEVE performed with a 36 Fr. nasogastric tube.

Dynamics of weight loss and the results of blood tests determined the effectiveness of the surgery.

Surgical safety was assessed using the Clavien-Dindo scale.

Gastrointestinal Symptom Rating Scale questionnaire monitored the quality of life in the postoperative period.

Results:

SADI-S with a long common loop of 350 cm showed a low complication rate in the postoperative period (0.4%), but slightly higher than the complication rate for SLEEVE (0.3%). The percentage reduction in BMI after SADI-S is significantly superior to SLEEVE. Remission of type 2 diabetes was achieved in 94% of patients after SADI-S and in 80% after SLEEVE.

According to the results of the GSRS questionnaire, there is a moderate difference in the quality of life after SADI-S and SLEEVE in terms of diarrheal and dyspeptic syndromes; there are no significant differences in the rest of the questionnaire indicators.

Conclusions:

Quality of life scores after SADI-S and SLEEVE are comparable.

The SADI-S operation with a total loop length of 350 cm is relatively safe and more effective than SLEEVE in the treatment of obesity and type 2 diabetes.

O-287

OUTCOMES AND TRENDS OF ENDOSCOPIC BARIATRIC THERAPIES AMONG MINORITY POPULATIONS

Endoscopic and percutaneous interventional procedures

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Introduction:

Endoscopic Bariatric therapies (EBT) have emerged as effective procedural options in patients pursuing weight loss. While the benefits of EBT have been documented, data regarding EBT among minority populations remains scant.

Objective:

We aim to investigate EBT trends and outcomes in minority populations.

Methods:

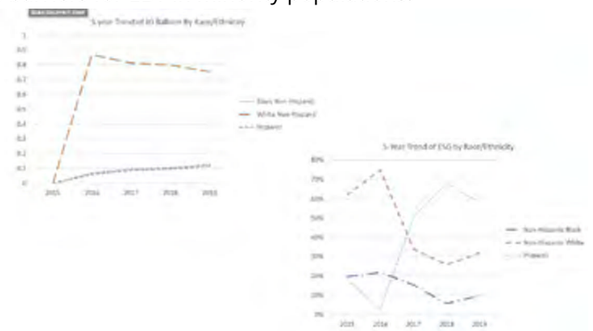
In this study, data were extracted from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project (MBSAQIP) data between 2015 and 2019. Intragastric Balloon (IGB) and Endoscopic Sleeve Gastroplasty (ESG) cases were identified, and procedure volume was assessed by year and race/ethnicity. Measures of interest included year-to-year all-cause mortality, procedure-related mortality, procedural complications, 30-day readmission, reoperation, and re-intervention.

Results:

In all, 5,209 patients met inclusion criteria, of which 75.2% were IGB. Of those included, Black patients comprised 10.7% of the study cohort and 81.6% female patients. Compared to White patients, Black and Hispanic patients were younger ($p<0.001$) with a higher BMI ($p<0.001$). Several pre-existing comorbid conditions were significant ($p<0.001$) different between racial/ethnic cohorts, including pre-Op GERD, hypertension, hyperlipidemia, COPD, previous obesity surgery, and albumin levels. All-cause Mortality (0.03% vs. 0% vs. 0%, p=0.99), and procedure related reoperation (0.98% vs. 0.53% vs. 0.58%, p= 0.46), reintervention (3.73% vs. 2.83% vs. 2.20%, p=0.06), and readmission (1.38% vs 1.59% vs. 1.27%, p=0.88) rates within 30 days of surgery were similar between racial/ethnic cohorts. All aggregate complications (bleeding, leak, SSI, and procedure-related readmission, reoperation, and reintervention) were similar between racial/ethnic cohorts (Table 1), except aggregate VTE, which was significantly higher in Hispanic (1.04%, $p < 0.01$)), compared to Black (0.18%) and White (0.21%) patients. IGB and ESG were predominantly performed in White and Hispanic patients, respectively (Figure 1). ESG was associated with a higher leak (0.6% vs.0.03%, $p<0.01$) and VTE (1.0% vs 0.13%, $p>0.01$) rate.

Conclusion:

While EBTs have increased annually, they are performed less commonly in Black patients. They are safely performed with similar outcomes in racial/ethnic cohorts, except for a higher VTE rate in Hispanic patients. Future studies are needed to identify access barriers for EBT in minority populations.



O-288

OUTCOMES IN MINIMALLY INVASIVE SLEEVE AND ROUX-EN-Y GASTRIC BYPASS AND IMPLICATIONS FOR SURGICAL RESIDENT EDUCATION

The training of surgeons in bariatric surgery. Where are we in 2020?

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Introduction:

The aim of this study is to evaluate the effects of resident participation in robotic and laparoscopic Roux-en-Y gastric bypass procedures (RYGBs) and robotic and laparoscopic Sleeve Gastrectomy (SG).

Method:

Our prospectively maintained MBSAQIP database was used to identify patients that underwent RYGB and SG performed at our institution between January 2020 and December 2021. Operative notes were reviewed to determine training level of the assistant and classification in 4 different groups: Junior level (including PGY2-3), chief level (PGY4-5), fellow and attending. Outcomes included duration of surgery, length of stay, post-operative complications, readmissions, and reoperations, that were stratified for comparison between groups. We excluded procedures where only the intern was with the attending and conversions or revisions.

Results:

Among 1467 total cases, the assistants for the procedures were MIS fellows 863 (58.8%), fifth and fourth-year residents (n = 228, 15.5%), third and second-year residents (n = 164, 11.2%), and attending surgeons (n = 212, 14.5%). There was 1130 (77%) SGs and 337 (23%) RYGBs. There were 23 robotic RYGB and 134 robotic SG. Mean BMI was higher in cases where the attending was performing by himself (47.1, SD 7.7) when compared to other groups. There were no conversions to open. Mean length of stay was 1.3 days and there was no difference between groups (p= 0.242). Postoperative complications were low, with 11 reoperations in 30 days (3.3%) and there was no difference between groups. There was no mortality in 30 or 90 days.

Conclusion:

Complication rates, length of stay, reoperation, ED visits and readmission rates were equivalent for patients regardless of the level of training of the assistant for RYGBs and SG. Involving residents in complex bariatric procedures is safe and that does not compromise patient safety or hospital outcomes.

O-289

OUTCOMES OF 75 CONSECUTIVE CASES OF LAPAROSCOPIC ONE ANASTOMOSIS GASTRIC BYPASS (LOAGB): A DETAILED PROSPECTIVE STUDY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Objectives:

To assess changes in pre and post-operative status of Diabetes Mellitus (DM), Hypertension, Dyslipidaemia, Obstructive Sleep Apnoea (OSA), Osteoarthritis, Gastro-oesophageal reflux disease (GERD) and Quality of Life (QOL) after Laparoscopic one anastomosis gastric bypass(LOAGB) along with safety and efficacy of procedure in Indian population.

Methods:

The study was conducted at a tertiary care bariatric surgery centre and included 75 consecutive individuals operated between January 2018 to December 2019 who underwent LOAGB and followed prospectively for minimum 1 year (mean 18 months).

RESULTS: The OAGB was completed laparoscopically in all patients. The overall morbidity with LOAGB was 1.3% without any mortality. Mean percentage of excess weight loss (% EWL) achieved was 72.73 on follow up. 93.9 % patients with DM, 67.45% patients with hypertension, 87% patient with hyperlipidaemia and all the patient with obstructive sleep apnoea and osteoarthritis of knee showed improvement/ resolution in their disease status. None of the patient showed worsening or development of new symptoms of GERD. All patients had improvement in their QOL as seen in their SF 36 scores.

Conclusion:

LOAGB is a safe and effective bariatric procedure. The post procedure improvement in DM, hypertension, hyperlipidaemia, OSA, osteoarthritis of knee and QOL is significant in Indian context.

Key Words : Mini gastric bypass(MGB), one anastomosis gastric bypass(OAGB), Laparoscopic one anastomosis gastric bypass(LOAGB), Advanced laparoscopy, Bariatric surgery, Quality of life after bariatric surgery

O-290
OUTCOMES OF COVID-19 HOSPITALIZED PATIENTS WITH CLASS III OBESITY IN CENTRAL TEXAS: A RETROSPECTIVE STUDY

Behavioral, psycho-social, and environmental predictors of bariatric surgery outcomes

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Introduction:

Recent meta-analyses have shown a significant association between patients with obesity and worse COVID-19 outcomes, though there remains a paucity of data focusing specifically on patients with class III obesity (BMI ≥ 40). We aim to retrospectively review the outcomes of this clinically vulnerable group admitted to a tertiary referral hospital in Central Texas with COVID-19 pneumonia.

Objectives:

Do patients with class III obesity experience worse outcomes with COVID-19 pneumonia?

Methods:

Data was obtained on patients admitted with COVID-19 pneumonia from March 2020 to November 2021. Patients without obesity (BMI < 30) were matched as controls by age, sex, and race to patients with class III obesity. After controlling for comorbidities, outcomes of death, ICU admission, invasive ventilation, tracheostomy placement, readmission, days on the ventilator, and length of stay were investigated.

Results:

A total of 343 patients met the inclusion criteria with an equal number of matched controls retained for analysis. The rates of death, ICU admission, and readmission rate were similar, but the need for invasive ventilation was significantly higher in patients with class III obesity (18.7% vs. 13.1%, p = 0.0097). These patients also required more time in the ICU (7 days vs. 3 days, p = 0.0061), along with an increased number of days on the ventilator (9.5 days vs. 5 days, p = 0.0376).

Conclusion:

In this study, the data from our institution revealed poor outcomes among patients with class III obesity admitted with COVID-19 pneumonia. These outcomes should be communicated when discussing health prevention with patients, and earlier medical and/or surgical interventions for obesity should be prioritized.

O-291
OUTCOMES OF LAPAROSCOPIC SLEEVE GASTRECTOMY WITH CONCURRENT HIATAL HERNIA REPAIR: A SINGLE SURGEON SERIES

Sleeve gastrectomy

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Background:

There is a complicated relationship between laparoscopic sleeve gastrectomy (LSG) and gastroesophageal reflux disease (GERD). Although concomitant hiatal hernia repair (HHR) at the time of LSG has been shown to be safe and is widely advocated, data is equivocal on hernia recurrence and its effect on GERD symptoms.

Objectives:

The aim of this study was to evaluate the effect of concomitant HHR on hernia recurrence and GERD symptoms in patients undergoing LSG.

Methods:

A prospectively maintained database of all patients who underwent LSG with concurrent HHR from January 2015 to December 2020 was retrospectively reviewed. Patient characteristics, operative details, and postoperative outcomes were analyzed. Patients were assessed for symptoms of GERD based on self-reported symptoms and use of anti-reflux medications. Recurrent hiatal hernia was diagnosed on preoperative endoscopy or imaging or intraoperatively at the time of reoperation. Failure of the initial HHR was defined as worsening or de novo GERD symptoms that require operative management. Surgical revision was offered to patients to alleviate GERD symptoms when dietary and medical management was inadequate.

Results:

Over the study period, a total of 1370 patients underwent LSG. There were 354 patients that had concurrent HHR and were included in the study. Mean length of follow up was 13.89 months (SD = 10). Preoperatively, 152 (43%) patients reported GERD symptoms and, of these, 118 (78%) experienced an improvement or remission in their symptoms post-operatively. Of the 202 (57%) who did not report pre-operative GERD, 29 (14%) experienced de novo GERD. Forty-two patients (12%) underwent a gastroscopy after their primary operation, of which 20 (6%) were to investigate GERD symptoms.

Twenty-one (6%) patients had a surgical revision and, of these, 13 (4%) required revision due to GERD symptoms. The majority (9/13) had recurrence of their hiatal hernia at reoperation and underwent repeat HHR. Three patients were converted to Roux-en-Y gastric bypass and one was converted to a single anastomosis gastric bypass.

Conclusion:

HHR at the time of LSG is durable and has a low failure rate. It is effective at improving GERD symptoms and carries a low risk of de novo GERD. Medical management of GERD symptoms is effective for most patients with persistent GERD, with few patients requiring a re-operation.

O-292

OUTCOMES OF ONE ANASTOMOSIS GASTRIC BYPASS, 6-YEARS FOLLOW-UP OF 4000 CASES

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

One anastomosis gastric bypass (OAGB) has been viewed with skepticism after the failure of the Bold Mason loop. During the past 15 years, a growing number of authors worldwide approved that OLGB is a safe and effective procedure, which appears clearly from the operative outcome and long-term follow-up of consecutive cohort studies of patients who underwent OAGB. The aim of this study is to evaluate the outcomes of OAGB at the bariatric center of our university hospital between 2009 and 2017.

Methods:

The data of 4000 patients who underwent OLGB from November 2009 to December 2017 at our center were reviewed. Mean age was 34.18 years, mean preoperative BMI was 48.6 ± 6.6 kg/m2, mean preoperative weight was 132.4 ± 26.3 kg, and 59.7% were women. Diabetes mellitus (DM) affected 1430 (35.8%) of the 4000 patients, whereas 1820 of the 4000 patients (45.5%) presented with hypertension. The mean operative time was 31 min.

Results:

The 1-year postoperative BMI mean decreased to 29.6 ± 3.1 kg/m2, at the 3-year follow-up, it was 27.5 ± 3.4 kg/m2 and the 6-year follow-up was 28.3±2.7 kg/m2. The mean of weight decreased to 81.3 ± 16.7 kg and to 78.9 ± 16.9 kg at the 1-year and the 3- year follow-up, respectively. Mortality rate was 0.1%. Overall complications were 9.6%; 0.7% required reoperations. Early complications were encountered in 123 patients (3.1%), and the late complications rate was (5.1%).

Conclusions:

In this study, greater excess weight loss was observed with OLGB which appeared to be a short, simple, low-risk, effective, and durable bariatric procedure.

O-293

OUTCOMES OF SLEEVE GASTRECTOMY IN PATIENTS OLDER THAN AGE 50

Sleeve gastrectomy

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Introduction:

The prevalence of obesity is increasing in Korean population regardless of age. And with aging, obesity in the older population has been the subject of ongoing debate but several studies have been recently demonstrated its safety and advantages in Korean obese.

Objectives:

This study was conducted to evaluate the clinical outcomes of sleeve gastrectomy in Korean patients older than 50 years. We retrospectively reviewed obese patients who underwent sleeve gastrectomy and analyzed the safety and efficacy in this age group.

Methods:

A retrospective review was performed of all patients aged 50 or older who underwent laparoscopic sleeve gastrectomy. We documented patient demographics, comorbidities, body mass index before and after the procedure, percent excess weight loss, comorbidity improvement, postoperative complications. We compared our study group to a control group of sleeve gastrectomy patients under the age of 50.

Results:

Among 36 patients short-term mortality was 0% and the 30-day complication rate was 11%. One patient (2.8%) had the Clavien-Dindo grade IIIb complication and a total of 3 patients (8.3%) had complications ≤ grade II. Percentage of total weight loss was 21.8% at postoperative 12 month. Patients achieved an average of 66% excess BMI loss (EBMIL) after 6months and 80.3% EBMIL after 12months of follow-up. Weight loss related outcomes were modest compared to those in the younger population (%EBMIL, p=0.04). During follow-up, both younger and older patients showed an improvement in the comorbidities, however, the percentage of improvement was significantly lower in the older age group.

Conclusion:

Laparoscopic sleeve gastrectomy is safe and effective in Korean older patients, yet weight loss outcomes are more modest when compared to a younger population. Carefully selected older patients can benefit from sleeve gastrectomy.

O-294

OUTCOMES OF THE ONE ANASTOMOSIS GASTRIC BYPASS WITH VARIOUS BILIOPANCREATIC LIMB LENGTHS: A RETROSPECTIVE SINGLE-CENTER COHORT STUDY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

One anastomosis gastric bypass (OAGB) is an effective and safe treatment for morbidly obese patients. There is no consensus on the optimal length of the biliopancreatic (BP) limb.

Objectives:

The aim of this study was to investigate the impact of tailoring the BP-limb length based on preoperative BMI in terms of weight loss outcomes.

Method:

A retrospective cohort study was performed on patients who underwent a primary OAGB at the Center Obesity North-Netherlands (CON) between January 2015 and December 2016. BP-limb length was tailored based on preoperative BMI. Patients were divided into three different groups depending on the length of the BP-limb: 150, 180, and 200 cm. Weight loss outcomes after one and three years were compared between the groups.

Results:

Of the 632 included patients, a BP-limb length of 150 cm was performed in 172 (27.2%), 180 cm in 388 (61.4%), and 200 cm in 72 (11.4%) patients. Despite more BMI loss, %EWL was lower and final BMI higher in the groups with longer BP-limb lengths. After adjustment for the confounder preoperative BMI, longer BP-limb lengths were not associated with higher BMI loss or higher %EWL.

Conclusion:

Longer BP-limbs in patients with higher preoperative BMI did not result in the intended better outcomes regarding weight loss. Adjusting the BP-limb based on preoperative BMI might not be the most optimal way to determine the BP-limb length in the OAGB.

O-295

OUTCOMES WITH GASTRIC POUCH EXCISION AND REVISION TO ESOPHAGOJEJUNOSTOMY FOR RECALCITRANT OR RECURRENT MARGINAL ULCERS AFTER ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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Introduction:

Recalcitrant or recurrent marginal ulcers (MU) refractory to medical and surgical therapy after Roux-en-y gastric bypass (RYGB) are difficult to manage. We have been fairly aggressive in treating these patients with excision of MU and gastric pouch and performing an esophagojejunostomy (EJ) reconstruction in these selected patients. No prior case series have examined revision of RYGB for chronic MU with gastric pouch excision.

Objectives:

To describe the indications for excision of gastric pouch and ulcer with revision of RYGB to EJ and define the short-term risks and outcomes from the operation.

Method:

Retrospective review of patients who underwent laparoscopic revision of RYGB for MU to handsewn EJ or near EJ (anastomosis within 0.5 cm of Z line) between May 2013 and January 2020 at single high-volume center, excluding those with gastrogastric fistulas.

Results:

25 patients, all were female, average age of 53 years (range, 29-71). Mean interval from index RYGB operation to revision was 9.9 years (range, 1.1-20.2 years). 72% of patients without identifiable cause for initial MU, all patients were on prolonged proton pump inhibitor (PPI) therapy with cessation of risk factors. 36% of patients had prior revision of gastrojejunostomy (GJ) for MU. Pouch size was an average length of 6 cm (range, 3-10 cm).

Average operative time was 135 ± 32.6 minutes. 30-day readmission rates were 28% with no mortalities. 4 patients (16%) requiring reoperations for bleeding, incisional hematoma evacuation, control of leak and intraabdominal washout. 3 patients (12%) had anastomotic leak that gradually healed after adequate drainage and use of endoscopic esophageal covered stents. 2 patients had anastomotic stenosis after 1 year from surgery which resolved after endoscopic dilations. At 6 months, only 64% of patients followed up and of those, almost all were off PPI. Post-operative endoscopy was performed selectively without recurrence of ulcer and all patients had no clinical recurrence of ulcer symptoms.

Conclusion:

Revision of RYGB with MU and gastric pouch excision to EJ as a definitive operation for chronic marginal ulcers is an aggressive but effective operation to definitively treat recalcitrant or recurrent MU in a select group of patients. The procedure carries a high morbidity including major complications of leaks, as well as risk for re-operation and post-discharge re-admission, even at a center with a large experience in RYGB revisions.

O-296

OVERSEWING OF THE JEJUNO-JEJUNO ANASTOMOSIS IN LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IS A WAY TO DECREASE POSTOPERATIVE GASTROINTESTINAL HEMORRHAGE

Endoscopic and percutaneous interventional procedures

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Background:

Gastrointestinal (GI) hemorrhage is a potential perioperative complication after laparoscopic Roux-en-Y gastric bypass (LRYGB). The etiology of postoperative GI hemorrhage is most likely to be from the cut edge of the staple lines. At our institution, early GI hemorrhage was the most frequent postoperative complication in LRYGB (5.4%).

Objectives:

The main objective of our study was to evaluate the impact of oversewing the staple line of the jejuno-jejuno anastomosis on the incidence of early GI hemorrhage in LRYGB.

Methods:

This is a retrospective cohort that included all patients who underwent LRYGB from April 2008 to March 2019. Patients without oversewn jejuno-jejuno anastomosis (April 2008 - August 2011) were called group 1, and patients with oversewn anastomosis (September 2011 - March 2019) were called group 2. Early GI hemorrhage, clinical presentation, need for blood transfusion, time of the postoperative stay (days) and surgical reoperation were recorded. All analyses were performed with Stata version 15 software with a significance level of 0.05. The sample size was calculated in 344 patients in each group considering a 95% confidence level.

Results:

A total of 1245 patients were operated on by 2 surgeons; of these, 1114 patients were included (541 in group 1 and 573 in group 2). Early GI hemorrhage was observed in 35 patients (3.1%), 29 patients in group 1 (5.4%) and 6 patients in group 2 (1%) (p: 0.00001). Twelve patients in group 1 (41.4%) and 1 patient (16.7%) in group 2 required blood transfusion (p = 0.13). The most frequent clinical manifestation observed was hematochezia (62.9%, group 1: 62.1%, group 2: 66.7%), followed by melena (28.6%, group 1: 31%, group 2: 16.7%) and hematemesis (8.6%, group 1: 6.9%, group 2: 16.7%). It should be noted that the patients who had hematemesis also had melena (37.1%). There were 2 surgical reoperations due to GI hemorrhage, one in each group. There was no mortality in this series.

Conclusion:

The jejunojejunostomy leaves a long line of staples which is hidden after the closure of the enterotomy, without being able to directly assess its correct hemostasis during surgery. Oversewing of the jejuno-jejuno anastomosis resulted in a significant reduction in early GI hemorrhage. Oversewing is an effective, simple and low-cost method that consumes a short surgical time and gives a high safety profile.

Figure 1. Mechanical jejuno-jejuno anastomosis.

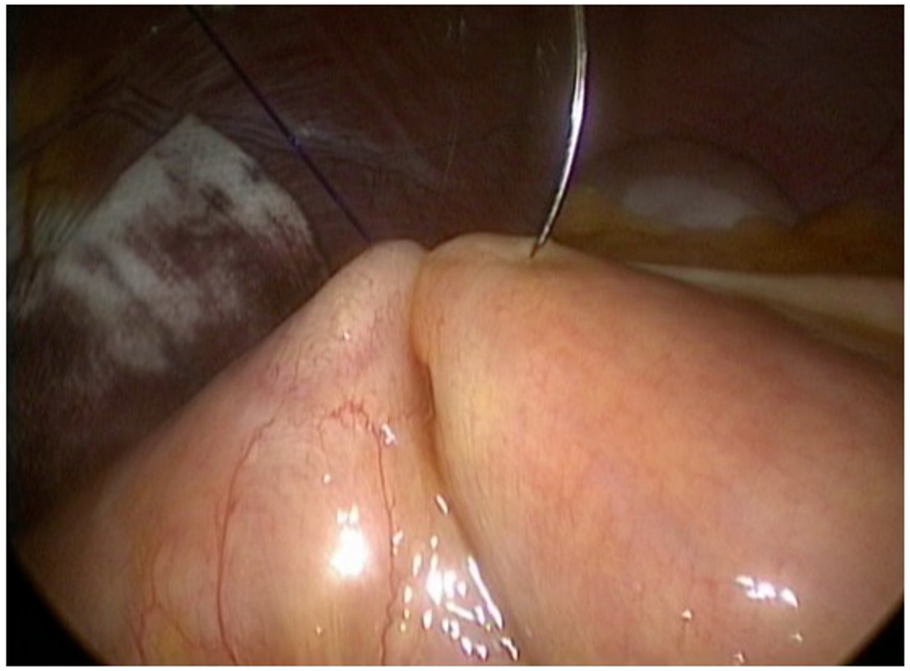

Figure 2. End of the enterotomy closure.

O-297

PATHOLOGICAL FINDINGS OF THE GASTRIC REMNANT AFTER VERTICAL GASTRECTOMY. IS ITS HISTOPATHOLOGICAL ANALYSIS NECESSARY

The recommendation and role of endoscopy before bariatric surgery

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Background:

Sleeve gastrectomy is one of the most performed bariatric procedures. In most centers, histopathological analysis of the gastric remnant is routinely performed. However, this means a significant cost to the patient and various studies have questioned their actual necessity.

Objectives:

The aim of this study was to review the findings of routine biopsy of the gastric remnant at a high-volume center.

Methods:

A retrospective study of biopsy results was conducted in patients undergoing sleeve gastrectomy (SG) at a high volume Hospital between 2015 and 2019. Both gastric remnant biopsy results and upper endoscopy (UE) biopsy results were classified according to its histopathological or morphological findings.

In addition, UE of all patients with intestinal metaplasia (IM) in the biopsy were reviewed. A multivariate analysis with logistic regression was performed, to correlate presence of IM and preoperative variables (age, sex, BMI and co-modbidities), using Oddds Ratio and p-value<0.05.

Results:

1023 samples were analyzed. The average age was 39 years, and 55.3% were female. Histopathological findings included: normal 642 patients (62.8%), Acute Gastritis 1 (0.10%), Chronic gastritis 375 patients (36.66%), Metaplasia 29 patients (2.8%) having all simultaneous presence of chronic gastritis; 2 GISTs (0.2%) (both intraoperative finding) and Schwannoma (0.1%). In addition, Helicobacter Pylori (+) was detected in 64 patients (6.3%) patients with active chronic gastritis. In relation to preoperative ED results in patients with intestinal metaplasia, 19 patients were positive (1.9%) with a 65% correlation with the results of the remaining biopsy. No neoplasm was detected in UE. In the multivariate analysis, only age was statistically significant [OR 1.06 (95% CI 1.02-1.11), p-value = 0.005]. When dividing the sample into 2 groups according to age (median 45 years), a significant difference was found between both groups and the presence of MI (p-value = 0.018).

Conclusion:

The most prevalent finding was chronic gastritis. Intestinal Metaplasia has a low incidence but is not sought routinely in all EDAs. According to our results, the routine biopsy of the gastric remnant is not justified in patients under 45 years of age, and its indication may be limited to those patients with risk factors such as advanced age, intestinal metaplasia or H. pylori infection.

O-298

PATIENT-REPORTED LONG-TERM OUTCOMES OF SLEEVE GASTRECTOMY FOR CLASS III OBESITY USING A VALIDATED QUESTIONNAIRE

Sleeve gastrectomy

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Background:

Long-term sleeve gastrectomy (SG) outcomes with ≥7 years of mean follow-up in patients with class III obesity (body mass index [BMI] ≥40.0 kg/m2) are scarce. We aimed to examine patient-reported outcomes in primary SG recipients with long-term follow-up.

Methods:

This was a retrospective observational analysis of patients who underwent primary SG in a single center with 8.8±2.7 (5–15) years of mean follow-up. Patients' preoperative medical data in combination with their responses to a validated questionnaire were evaluated.

Results:

Of 2,271 primary SG patients, 611 (67.0% female) were included into the study. Mean baseline BMI was 42.5±5.5 kg/m2. Patient-reported BMI at nadir was 27.5±4.8 kg/m2, corresponding to a mean EWL 87.3%. Current BMI was 32.5±6.4 kg/m2 (a reduction from baseline of 10.0 kg/m2; p<0.001); mean follow-up EWL was 54.0±26.8%; mean weight regain from nadir was 12.2 kg (17.0±14.6% of maximum weight lost). High rates of resolution of obesity-related conditions (e.g., type 2 diabetes, 76.1%) were sustained at follow-up. Revisional surgery was required in 28 (4.6%) patients largely due to weight regain and/or severe reflux. The majority of patients were satisfied with SG (370, 60.0%) and would choose it again.

Conclusions:

At a mean follow-up of 8.8 years, primary SG in class III patients was associated with 54.0% EWL. Weight regain and severe reflux led to revisional surgery in 4.6% of patients. In a large cohort of 611, patient-reported SG outcomes deemed the procedure safe, effective, and well-accepted over the long term.

ORAL ABSTRACTS

O-299

PRE-OPERATIVE WEIGHT LOSS IS NOT A PREDICTOR OF WEIGHT LOSS AFTER BARIATRIC SURGERY

Behavioral health and bariatric surgery - pre and post-op challenges

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Background:

Mandatory pre-operative weight loss is often required as admissibility criteria for bariatric surgery. Some authors propose that pre-operative weight loss is associated with patient compliance to dietary and lifestyle interventions, which are paramount in the management of obesity. However, there is no hard evidence confirming that pre-operative weight loss is related to the magnitude of post-operative weight loss. On the other hand, refusing bariatric surgery to patients who are unable to lose weight pre-operatively might exclude patients who need the most the surgically induced weight loss.

Objectives:

In this preliminary study we try to analyze if pre-operative weight change is associated with post-operative weight loss after bariatric surgery.

Methods:

Retrospective analysis of 198 patients treated in a Portuguese Community Hospital between January 2018 and September 2021. Statistical analysis was performed with SPSS v. 28 and p-values <0.05 were considered significant. Patients were analyzed regarding anthropometric data, weight change between the first outpatient visit and the day of the surgery and post-operative weight change.

Results:

Most patients were female. The mean BMI was 43.1 kg/m2. The most frequent surgery was gastric bypass (56.6%) followed by gastric sleeve (37.4%). Upon the first dietitian consultation, patients were proposed dietary optimization. Pre-operative weight loss was recommended but not required for surgery. In this period, 50% of the patients increased their weight and only 22.2% had a significant (>2kg) weight reduction. The 1 month %EWL was 26% and the 12 months %EWL was 81.5% and were not statistically different according to pre-operative weight change. Patient with pre-operative weight loss had significantly lower BMI (40.5 vs 44.5; p=0.03) at the day of surgery, although their maximum BMI was not different. After adjustment for initial BMI and type of surgery, pre-operative weight change was not related with 1 month and 12 months weight loss (p=0.9).

Conclusion:

Mandatory pre-operative weight loss is not associated with post-operative weight loss and might exclude patients who are the most in need of surgical treatment.

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O-300

PATIENTS WHO NEVER ACHIEVE 50% EXCESS WEIGHT LOSS AFTER BARIATRIC SURGERY: A NEED FOR BETTER PATIENT SELECTION AND MANAGEMENT STRATEGIES

Multidisciplinary care (Primary care, medical management)

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Background:

50% excess weight loss (EWL) is generally accepted as a successful outcome following bariatric surgery. However, in published studies, a significant proportion of patients never achieve 50% EWL.

Objectives:

The aim of this study was to determine the number of patients in our cohort who never achieved 50% EWL and to define characteristics of this group to guide future patient selection and management.

Methods:

119 consecutive patients were included in the study (58 laparoscopic sleeve gastrectomy and 61 laparoscopic gastric bypass). They were regularly followed up by a specialist bariatric team. We compared those who achieved 50% EWL and those who did not achieve 50% EWL and conducted a subgroup analysis in patients who lost >50% EWL, comparing those who regained <20% of their maximum EWL with those who regained >20% of their maximum EWL. Statistical analysis was carried out using SPSS.

Results:

All 119 patients were followed up for 5 years. 14 patients (11.8%) never achieved EWL of 50% at any time. Their weight loss at 5 years was significantly lower EWL (29.0%) than patients who lost more than 50% EWL (p<0.001) (Figure 1). The differences in patient characteristics are shown in Table 1. In the subgroup analysis 42/105 patients (40%) regained >20% of their maximum EWL. The regain was seen typically at 18-24 months. There were no differences in characteristics between patients who retained their weight loss and those who regained. Weight loss was significantly higher at 5 years in those who retained their weight loss (61.3% vs 49.4%, p<0.001) (Figure 2).

Conclusion:

11.8% of patients never achieved EWL of 50% during the 5 year follow up. There are several characteristics of patients who never achieved 50% EWL and these patients should be identified for intensive multidisciplinary support including dietetic, psychological, pharmacotherapeutic and endoscopic or revisional surgical management.

Table 1: Patient Characteristics

	Greater than 50% EWL (n=105)	Less than 50% EWL (n=14)	P-value
Age (median, years)	46.1	54.4	0.001
Gender (% female)	71.4	85.7	0.347
Height (median, metres)	1.66	1.57	<0.001
Operation (% sleeve)	44.8	78.6	0.023
Baseline BMI (median)	51.0	55.7	0.023
Baseline diabetes (%)	30.5	57.1	0.047
Baseline statin (%)	26.7	42.9	0.208
Psychiatric medications prescribed (%)	35.2	64.3	0.044

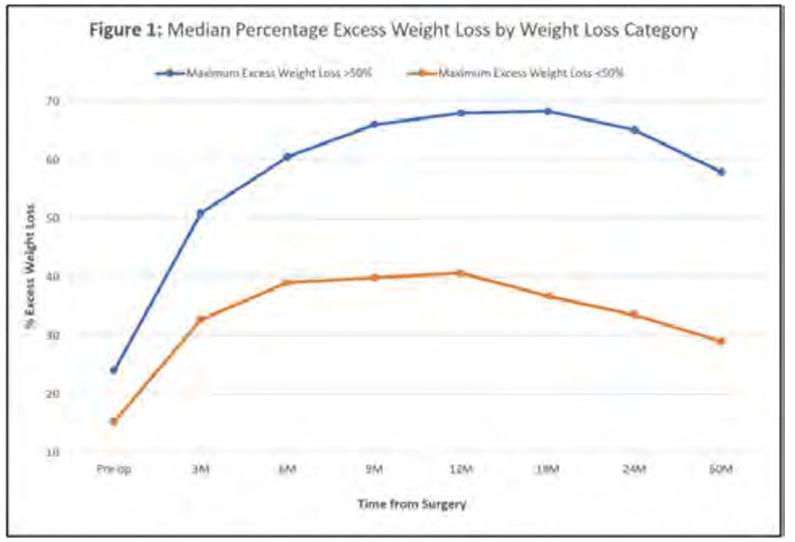

Figure 1: Median Percentage Excess Weight Loss by Weight Loss Category

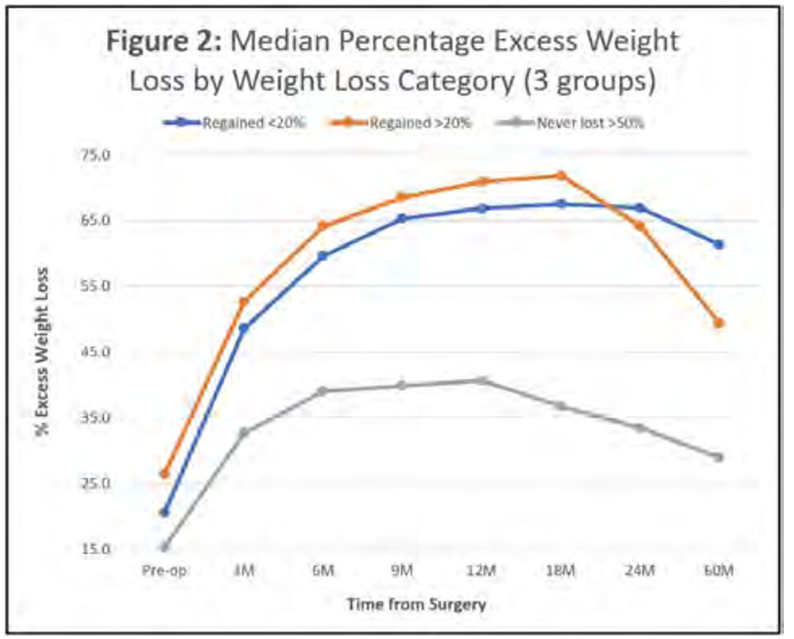

Figure 2: Median Percentage Excess Weight Loss by Weight Loss Category (3 groups)

ORAL ABSTRACTS

O-301

PERCEPTIONS AND REFERRAL PATTERNS OF WEIGHT MANAGEMENT OPTIONS AMONG PRIMARY CARE PHYSICIANS

Endoscopic and percutaneous interventional procedures

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Background:

In the United States, less than 1% of all eligible patients with significant obesity who qualify for bariatric surgery ultimately undergo surgery.

Objectives:

Investigate perceptions and referral patterns for weight management, including endoscopic bariatric therapies (EBTs) among primary care physicians (PCPs).

Methods:

A 22-question survey was distributed to PCPs across the entire Mayo Clinic Health Care System. Survey invitations were sent via email and all surveys were unanimously conducted electronically.

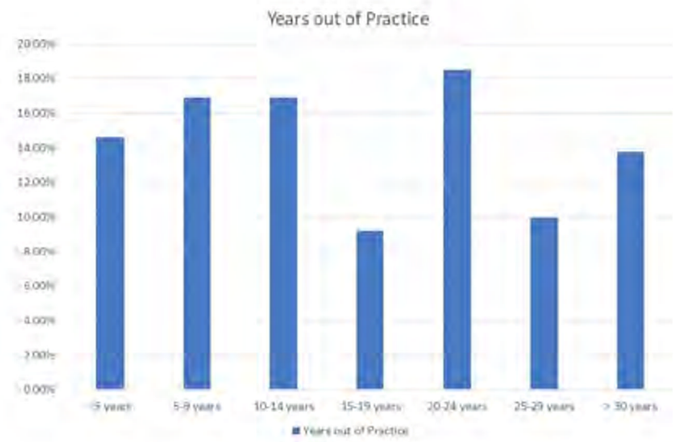
Results:

A total of 130 PCPs participated in the survey (40% response rate). 24 PCPs were between 20-24 years out of training (18.5%) and 71 (54.6%) were female (figure). The most common provider body mass index (BMI) was between 18.5-24.9 (n=62, 47.7%). Amongst the weight loss options discussed during clinic visits, PCPs discussed lifestyle modification including diet and exercise (n=129; 99.2%), bariatric surgical options (n=99, 76.2%), and only 22 (16.9%) PCPs discuss EBTs as a weight loss option. Interestingly, 68 PCPs (52.3%) were not aware of EBTs as weight loss interventions. While 46.2% of the PCPs agreed that bariatric endoscopy is an effective option for weight loss, only 24.6% of PCPs were familiar with the indications for EBTs.

Most of the cohort (n=91; 70%) was comfortable referring their patients to weight management centers. 69 (53.1%) PCPs experienced barriers in referring their patients, commonly due to lack of insurance coverage for bariatric benefits (n=58, 44.6%), patient fears regarding bariatric surgery (n=41, 31.5%), and issues with clinic access (n=27, 20.8%). Compared to PCPs with BMI >35 kg/m2, those with BMI <25 kg/m2 were more likely to refer patients to weight management clinics (47.7% vs 3.8%, p<0.001). About half of the providers (n=66; 50.8%) agreed that bariatric surgery is an effective treatment option for weight management and improving metabolic disease in patients with obesity and obesity related comorbidities. Neither BMI of provider, years out of training, or gender were significantly associated with referral frequency on univariate and multivariate analysis. At the end of the survey, the majority (n=110, 84.6%) of PCPs expressed interest in educational programs regarding EBTs/surgical weight management options.

Conclusion:

Knowledge gaps and perceptions of EBTs and surgical options could limit optimal care, Targeted educational programs may improve access to these resources.



O-302

PERCEPTIONS OF OBESITY AND BARIATRIC SURGERY AMONG RESIDENTS

Bariatric training

J. Perrone[1], J. Yang[2], S. Westerman[3], D. Ewing[4], T. Talishinskiy[1].

[1]St. Joseph's University Medical Center, Paterson, United States; [2]General Surgery,St. Joseph's University Medical Center, Paterson, United States; [3]Hackensack UMC Palisades, North Bergen, United States; [4]Hackensack University Medical Center, Hackensack, United States.

Introduction:

Bariatric surgery has been proven to be the most durable and effective treatment for weight loss. Despite that, less than 1% of patients who qualify for a bariatric procedure undergo one. Referrals for bariatric surgery are still one of the main hurdles for wider implementation of bariatric surgery.

Objectives:

The aim of this study was to evaluate residents in different specialties regarding their exposure to, knowledge and understanding of obesity and bariatric surgery.

Methods:

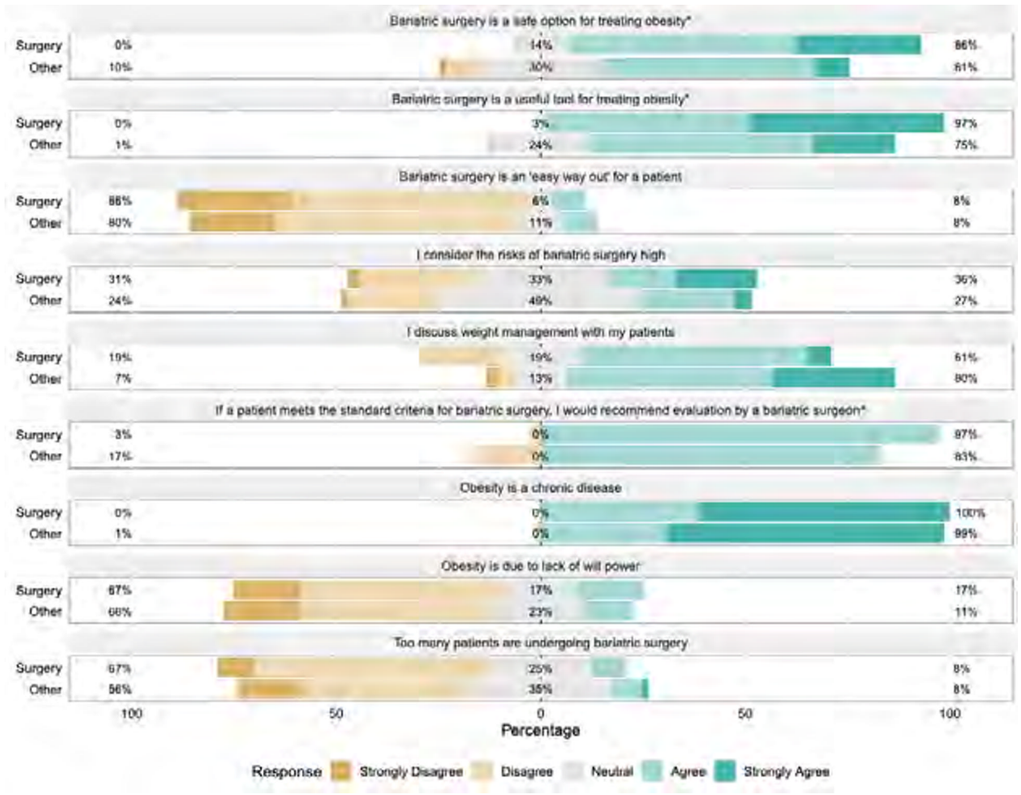
Surveys regarding bariatric surgery were emailed to residents at nine hospitals across ten different types of residencies in New Jersey, United States. A total of 107 survey responses were analyzed. Descriptive statistics were reported for the total sample, as well as by residency type and by status as a bariatric center of excellence. Comparisons between groups were conducted using either the chi-square test or Fisher's exact test.

Results:

20% of respondents had a personal history with obesity, and 40% had family members with a history of obesity. Over 99% agreed that obesity is a chronic disease, but only half agreed that obesity and weight management were part of their training. While general surgery residents were less likely to discuss weight management with their patients, they correctly answered knowledge-based questions at a statistically significant higher rate than their non-surgical counterparts. Less than half of the residents knew that medical societies endorsed bariatric surgery, and 30 % viewed bariatric surgery as high risk. Just over half recognized that bariatric surgery offers superior control of diabetes compared to medical management alone. 70% viewed malnutrition as a common consequence of bariatric surgery.

Conclusions:

We conclude that all residency specialties should place a greater emphasis on obesity education and the important role of bariatric surgery. This would ultimately lead to more bariatric referrals and improved implementation of evidence-based care for obese patients.



O-303

PERCUTANEOUS ENDOSCOPIC INTRAGASTRIC SURGERY FOR ERODED GASTRIC BAND: HOW WE DID IT

Endoscopic and percutaneous interventional procedures

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Introduction:

Gastric band erosion is an uncommon late complication of laparoscopic adjustable gastric banding (LAGB). Although endoscopic removal is widely performed, surgical removal is an alternative if a gastric band cutter is unavailable or endoscopic attempts are unsuccessful. We found gastric band erosion in a 54-year-old male during treatment for port site infection 13 years after LAGB placement in our institute.

Methods:

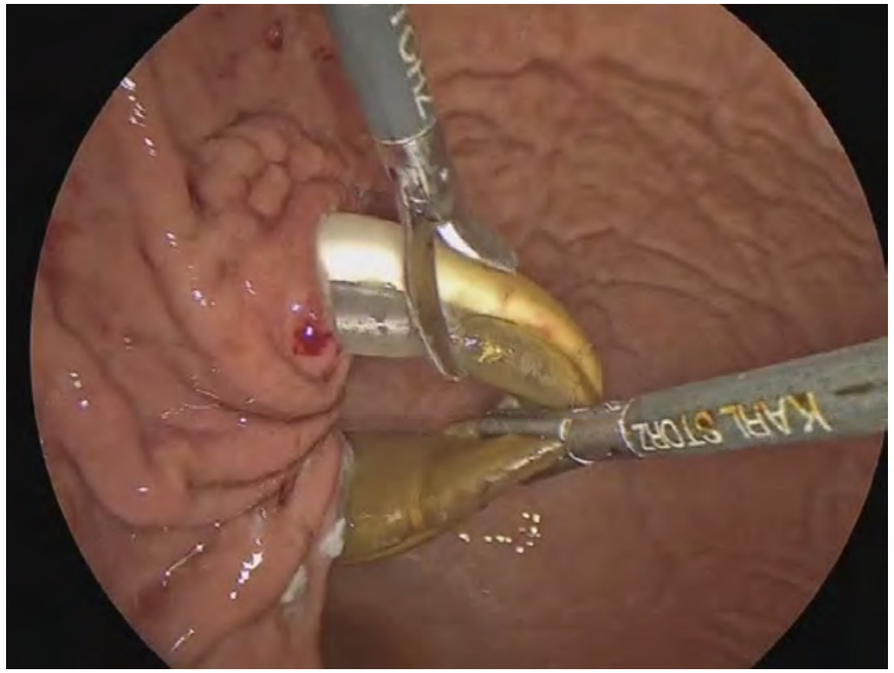
The band buckle was observed within the lumen, which was generally considered a good indication for endoscopic removal. However, we planned a percutaneous endoscopic intragastric surgery (PEIGS) to remove the eroded band because of the unavailability of a gastric band cutter in Japan. After pneumoperitoneum via a 12-mm optical port, we established the access routes by introducing three balloon trocars into the anterior wall of the stomach. Balloon trocars fixed the wall of the stomach to the abdominal wall, and inflation of the stomach brought a large operative area and good operability. The band was cut and extracted from the abdomen after pulling out of the stomach.

Results:

We found no leakage after repairing the gastrostomies. The patient was uneventfully discharged 2 days after the surgery.

Conclusion:

We consider PEIGS a surgical option for gastric band erosion when endoscopic approaches are unavailable.



O-304

PERCUTANEOUS TRANSCATHETHER BARIATRIC EMBOLOTHERAPY (PTBE) IN MINIMALLY INVASIVE TREATMENT OF OBESITY: SIX MONTHS THROUGHOUT THREE YEARS RESULTS FROM AN RCT

Endoscopic and percutaneous interventional procedures

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Introduction:

Bariatric surgery is effective treatment for morbid obesity and related comorbidities. Overweight and grade I obesity pts are commonly managed with combination of diet/lifestyle therapy, and weight loss (WL) medication, this often comes with side-effects and contraindications. There is no standard management for pts with BMI 30.0–35.0.Percutaneous transcatheter bariatric embolotherapy(PTBE) is minimally invasive, non-surgical procedure for WL in which the left gastric artery(LGA) is embolized thereby affecting the fundus of the stomach. This could contribute to filling the treatment gap.

Objective:

Assess medium-term safety and efficacy(WL,Ghrelin,Visfatin,QoL,satiety & other outcomes) in pts who underwent PTBE using Endobar Lamina System (Endobar Solutions,LLC,Orangeburg,NY) in 1:1randomized,sham-controlled,evaluator-blind study with follow-up at 6,12,24,30mths & 3yrs.

Methods:

Eligible subjects (n=44; age45.5±9.4;M/F 8/36;BMI 39.6 ± 3.8)were randomized to Sham or TBE (NCT03185949)using occlusion balloon microcatheter and robotic infusion manifold to administer 300-500 µm embolic beads into the LGA.

Results:

No report on device-related complications occured; there was 1 vascular complication. Endoscopy revealed only minor self-limiting ulcers in 5 pts. At 6mths,in both the intention-to-treat (ITT) and per-protocol (PP) populations, TBWL was greater with TBE (7.4 kg/6.4% and 9.4 kg/8.3%,respectively) than Sham (3.0 kg/2.8% and 1.9 kg/1.8%,respectively; p=0.034/p=0.052 and p=0.0002/p=0.0011,respectively).TBWL maintained with TBE at 12 mths (ITT 7.8 kg/6.5%, PP 9.3 kg/9.3%; p=0.0011/p=0.0008, p=0.0005/p=0.0005,respectively. 30mths post-PTBE WL was sustained, the group demonstrated 9% TBWL/25% EBWL. At 6 mths PTBE group demonstrated median decrease in Ghrelin of 12.2% and 3.4% in Sham(p=0.45). At 12 mths PTBE group demonstrated significant median decrease of 15.5% (difference from baseline:p = 0.035). At 6mths, the treatment group(p=0.0046) saw mean 20.24% decrease (95% CI:5.97,34.50) in Visfatin, control group (p=0.0938)demonstrated mean 11.68% decrease (95% CI:−1.94,25.30). From baseline through 24 mths, the cohort demonstrated consistent reduction in volume (mL) to achieve satiety. In post-PTBE, total volume to achieve satiety was 33% less than at baseline. QOLscores improved at 24mths from mean 47±11% to 69±10%.

Conclusion:

TBE of LGA is safe, promotes significant & sustained WL up to 3yrs.Future studies needed in pts with T2DM to detect metabol changes.

O-305

PERFORMANCE OF THE ELECTRONIC AND SMART STAPLERS IN LAPAROSCOPIC SLEEVE GASTRECTOMY. 490 CASES WITHOUT COMPLICATIONS

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Leakage and bleeding after laparoscopic sleeve gastrectomy (LSG) may be due to a mismatch between staple height and tissue thickness. The new staplers offered in the market allow you to determine the thickness of the tissue and adapt to tissue variability. The aim of our study is to show our experience using the smart stapling system.

Methods:

A total of 490 patients were included in the period of time from January 2017 to January 2021, of which 73.2% were women. The mean age was 34.8 ± 9.8 years, with an average BMI of 34.85 ± 6.7 kg / m2. The procedure they underwent was LSG and the iDrive ™ Ultra Powered Stapling System was used with Tri-Staple ™ cartridges with 170 of these patients, and Signia™ stapling system was used with 320 of them. Subsequently, the presence or absence of the frequent complications was sought in the post-operative period at 30 days.

Results:

In the 30-day postoperative period, we observed no complications in all patients. However, in two cases there was a failure to operate the stapler derived from the failure of the complete sterilization cycle.

Conclusions:

The use of new generations of stapling systems proved to be safe and highly effective, decreasing the incidence of complications in the LSG. We propose the realization of studies comparing the use of smart stapling systems with manual staplers in order to be able to affirm, with a better level of evidence, the greater security offered by new technologies in the field of bariatric surgery.

O-306

PNEUMATIC DILATIONS AND ENDOSCOPIC BARIATRIC STENT (EBS) PLACEMENT FOR THE TREATMENT OF GASTRIC TWIST (GT) AFTER SLEEVE GASTROPLASTY (SG) – A CASE REPORT

Endoscopic and percutaneous interventional procedures

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Introduction:

Complications after SG are very difficult to treat. Endoscopic treatment may be preferable due to its less invasiveness and morbidity.

Objectives:

To present a multimodal treatment for GT after SG, with pneumatic balloon dilations (PBD) and EBS positioning. Migration of the EBS with acute cholangitis secondary to major duodenal papilla obstruction is reported too.

Methods:

36-year-old female submitted do SG for the treatment of Grade II Obesity in September – 2020 with no intra or post-operative complications. 16 days after presented with vomits, abdominal distension and pain. Double contrast CT scan showed intense esophageal distension, stasis and surgical gastric manipulation. Upper esophagogastroduodenoscopy (UE) showed a 180º gastric twist and migration of the stomach into thoracic cavity. It was decided to perform an exploratory laparoscopy which confirmed a 180º gastric twist causing esophageal complete obstruction. Under UE visualization, un-twisting was completed and nasoenteral tube was positioned. Three days later, the patient had new episodes of vomiting. A new UE showed an area of sub estenosis located 2 cm distal to esophagogastric junction. Then, it was opted for PBD (three sessions), at two week intervals. After this therapy, there were no improvements in oral intake acceptance or endoscopic aspect of the stenosis. It was then decided to place a fully covered self-expansible EBS (26 mm x 21 0mm HANARO) with its distal extremity positioned at second duodenal portion and proximal just above esophagogastric junction. Radioscopic and endoscopic guidance was used for confirmation of stent placement. The patient initiated oral feeding and had adequate tolerance. Unfortunately, after 7 days, she presented with jaundice, fever and right quadrant abdominal pain. UE showed EBS migration with major duodenal papilla obstruction. EBS removal was immediately indicated and Endoscopic Retrograde Cholangiopancreatography ERCP was performed. Cholangiography demonstrated intra and extrahepatic bile ducts dilation. Papilotomy was rapidly executed and transpapillary 10Fr x 7 cm plastic stent was placed.

Results:

24 hours after ERCP, patient was asymptomatic, initiated oral intake with adequate acceptance and received hospital discharge with oral antibiotics. 30 days later, she was still having a normal food intake.

Conclusion:

Even with some possible complications that are easily treated, PBD and EBS seem to be safe and effective for the treatment of post-SG complications such as gastric twist.

O-307

PORTOMESENTERIC VEIN THROMBOSIS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY: PREVALENCE, PREDICTORS AND OUTCOMES. A MULTICENTER COHORT STUDY

Post-operative complications

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Introduction:

Porto-mesenteric venous thrombosis (PMVT) is a rare but potentially fatal complication of bariatric surgery. However, after laparoscopic sleeve gastrectomy (LSG) operations, a growing incidence of PMVT problems have been recorded in recent years.

Objective:

The objectives of this paper are to determine the prevalence, predictors and outcome of PVT and MVT in patients who underwent a LSG for morbid obesity.

Methods:

This is a retrospective analysis of patients who underwent sleeve gastrectomy between January 2017 and June 2021 who developed PMVT. Demographic data, predictor factors, presentation and outcomes were analysed in this study.

Results:

A total of 1511 LSG were performed. Twelve patients (0.79%) developed PMVT after surgery. Of the 12 patients, 6 were women, 8 had a history of smoking, and 2 had a family history of deep vein thrombosis of the lower limbs. All patients were discharged on the second day of surgery with no immediate complications. Symptoms presented at a median of 12 days ((5–35 days) after LSG with postprandial abdominal pain with vomiting in most cases. univariate analysis demonstrated 6 predictors for PMVT including high altitude, intractable vomiting, fluid intake less than 3 litres, male patient smoking, and secondary polycythaemia. Multivariate analysis revealed that smoking is independent factors for development of PMVT. Nine patients presented by thrombosis of the superior mesenteric vein, and three patients presented a concomitant thrombosis of the portal vein. All diagnoses were made by using computed tomography. All initial treatments were anticoagulation, heparin drip being the most common method and two patients required a reoperation. Two mortalities related to PMVT.

Conclusion:

PMVT is a rare complication after LSG, for which high altitude, intractable postoperative vomiting, fluid intake less than 3 litres, smoking, male patient and secondary polycythaemia were identified as a predominant risk factor. Prolonged postoperative anticoagulant therapy with LMWH is recommended in high risk patients for 28 days to decrease the occurrence of postoperative venous thromboembolism,

Table (1): Demographic data

Variables	
Age	34 (16-65)
40	1143 (75.6%)
40	368 (24.4%)
Sex	
Male	565 (37.4%)
Female	946 (62.6%)
Smokers	233 (15.4%)
DM	228 (15.1%)
BMI	47 (38-85)
Preoperative excess weight	67 (36-120)
Altitude level	
Normal	1044
High	467
Operative time	53 (45-87)
Hospital stays	2 (1-25)
Total patients with complications	160 (10.5%)
Patients with minor complications	129 (8.5%)
Patients with major complications	31 (2.1%)
Postoperative gastric leakage	14 (0.9%)
Hematoma	27 (1.8%)
Internal haemorrhage	4 (0.2%)
Abdominal collection	16 (1.05%)
Postoperative MVO	12 (0.79%)
Extent	
MVO	9
PV and MVO	3
Management	
Conservative	10
Surgical	2
DVT	25 (1.65%)
Timing	
Within the admission	3
After discharge	8
Pulmonary embolism	19 (1.25%)
Pulmonary complications	28 (1.85%)
Hospital mortality	6 (0.39%)
Causes	
Leakage	2
MVO	2
PE	2

Table 5: Univariate and multivariate analysis for the risk factors of development of venous thromboembolism

variable	Univariate analysis			Multivariate analysis			
	No venous thromboembolism (1257 paticnts)	venous thromboembolism (38 paticnts)		Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Age							
Age group							
> 40 years	366 (99.5%)	2 (0.5%)	0.53				
< 40	1133 (98.1%)	10 (0.9%)					
Sex							
Male	557 (98.6%)	8 (1.4%)	0.04	.481	2.320	.224	24.079
Female	942 (99.6%)	4 (0.4%)					
Smoking							
Yes	224 (96.1%)	9 (3.9%)	0.0001	.004	.033	.003	.328
No	1275 (99.8%)	3 (0.2%)					
BMI							
<50	910 (99.6%)	4 (0.4%)	0.06				
>50	589 (98.7%)	8 (1.3%)					
Altitude level				564	554	.075	4 106
High altitude	459 (98.3%)	8 (1.7%)	0.001				
Low altitude	1040 (99.6%)	4 (0.4%)					
Secondary polycythemia				.987	1.052	.003	369.892
Yes	144 (94.7%)	9 (5.9%)	0.0001				
No	1355 (99.7%)	3 (0.2%)					
Hyperlipaedemia							
Yes	229 (97.4%)	4 (1.7%)	0.09				
No	1270 (99.4%)	8 (0.6%)					
Recurrent vomiting				.986	5.063E7	.000	
No	1307 (100%)	0					
yes	192 (94.1%)	12 (5.9%)	0.0001				
Fluid intake				.386	.073	.000	
Less than 3 liters/day							
More than 3 liters/days	144 (94.1%)	9 (5.9%)	0.0001				
	1355 (99.8%)	3 (0.2%)					
Distance from pylorus							
<3cm	656 (98.9%)	7 (1.1%)	0.31				
>3cm	843 (99.4%)	5 (0.6%)					
Operative time	54	55	0.72				

O-308

POST SLEEVE GASTRECTOMY LEAKS: OPTIONS AND ALGORITHM OF MANAGEMENT

Endoscopic and percutaneous interventional procedures

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Objectives::

Staple-line leak after sleeve gastrectomy is a challenging complication with difficult management. With advancement of endoscopy, self-expanding covered stents are more commonly used. We aimed to determine the efficacy and safety of non-migratory stents after sleeve gastrectomy leak and to determine an algorithm plan for the management of gastric sleeve leaks.

Methods:

Between January 2014 and June 2016, 24 patients presented to our hospital with post sleeve gastrectomy leaks (6 from our hospital and 18 from other hospitals). CT scan and endoscopy assessed leaks. Treatment included NPO, TPN, Endoscopic Stent insertion +/- CT-guided or laparoscopic drainage of big collections if present.

Results:

Patients were followed up as inpatient and outpatient. Two patients were lost for follow-up after discharge. 21 patients improved well, tolerated the procedure and were discharged in a mean of 25 days after the stenting and one patient is still in hospital. Two patients have their stent removed earlier because of migration. The main side effect was prolonged nausea and vomiting (14 patients). Stents were removed after average of six weeks with no major complications. An algorithm of management was also created to treat similar cases in the future.

Conclusion:

Endoscopic stenting is a safe and effective tool in post sleeve gastrectomy leaks. Patients may need co-management with CT-guided or laparoscopic drainage if large collections were found. Further studies with larger number should be considered to emphasize these results.

O-309

POSTOPERATIVE WEIGHT LOSS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY CORRELATES WELL WITH THE VOLUME OF THE RESECTED SPECIMEN AND NOT WITH THE VOLUME OF THE SLEEVE IN BOTH SHORT AND LONG-TERM – DATA FROM MULTI DETECTOR COMPUTED TOMOGRAPHY BASED FOLLOW-UP STUDY

Sleeve gastrectomy

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Introduction:

Laparoscopic sleeve gastrectomy (LSG) relies on pre- and post-operative stomach volume for its effective outcome in terms of weight loss. This study was designed to evaluate the relationship of excised stomach volume with weight loss after LSG at 3 months, one year and long term (6 years).

Methods:

The study has been conducted over two cohorts of patients with BMI ≥35 kg/m2 and medical comorbidities at different time intervals. Twenty patients were included in the first cohort who underwent LSG between 2011 and 2013 and were analysed prospectively at an interval of 3 months and then at 80 months. The second cohort comprised of thirteen patients who underwent LSG between September 2018 and April 2020 and were followed up at 3 and 12 months after LSG.
Low dose Multi Detector Computed Tomography (MDCT) of upper abdomen was performed preoperatively for all the patients and stomach volume was calculated. At surgery volume of excised stomach was measured with saline distension to calculate the volume of the sleeve (Pre-op gastric volume – excised specimen volume). MDCT was repeated during follow up periods and weights of the patients were recorded. Volume of the excised stomach specimen calculated by saline distension and the volume of the sleeve as measured by MDCT were correlated with the weight of the patients at these time points.

Results:

Cohort 1: The mean preoperative weight, BMI and stomach volume of the patients were 134.20±25.32 kg, 47.62±5.70 kg/m2 and 1216.30±230.01 ml respectively. The mean volume of the resected specimen was 965±268.54 ml. The mean weight loss, % excess weight loss (%EWL) and the gastric sleeve volume at 3 months post LSG were 20.65±8.01 kg, 34.64±4.86% and 210.10±62.33 ml respectively, and at long term follow up (average 91 months post LSG) were 34.21±12.44 kg, 56.46±4.90% and 330.90±56.42 ml respectively. Post-operative weight loss correlated with the volume of the excised specimen ($r=0.451$, $p=0.190$ @ 3 months; $r=0.826$, $p<0.01$ @ 91 months).
Cohort 2: The mean preoperative BMI and stomach volume were 40.50 kg/m2 and 1102.74 ml respectively. The mean resected specimen volume was 935.38 ml. The mean postoperative gastric sleeve volume at 3 and 12 months was 181.41 ml . ($r=0.363$, $p=0.223$)and 288.39 ml ($r=0.816$, $p=0.025$) respectively.

Conclusion:

The present study shows that postoperative weight loss after LSG correlates well with the volume of the resected specimen at 3 months, 1 year and 6 years (long term).

O-310

PREDICTIVE FACTORS FOR GASTROESOPHAGEAL REFLUX DISEASE AFTER CONVERSION FROM SLEEVE GASTRECTOMY TO GASTRIC BYPASS

GERD and bariatric surgery

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Introduction:

More than 12% of the patients operated on by sleeve gastrectomy (SG) require a new operation at 10 years, for insufficient weight loss (90%) or for gastroesophageal reflux (GERD) refractory to medical treatment (5%). In 75% of cases, this operation is a conversion to gastric bypass (GBP). This procedure is not very standardized and the outcome, weight loss or remission of GERD, is sometimes disappointing.

Objective:

To evaluate the benefit of GBP on GERD after SG.

Methods:

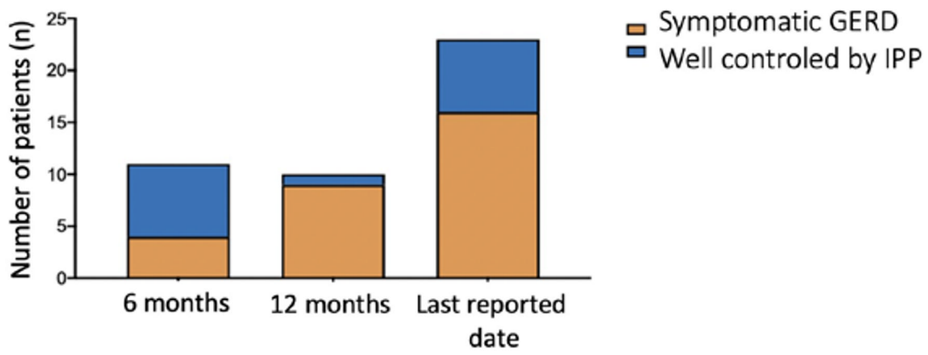
We included in this study all patients undergoing conversion from SG to GBP between January 2013 and December 2020 for insufficient weight loss, gastroesophageal reflux, or gastric sleeve abnormality (fistula or stenosis), as these etiologies are often intertwined. Quantitative variables were compared by ANOVA or Kruskal Wallis test, depending on the normality of the distribution. Qualitative variables were compared by a Chi-square test or Fisher exact test, using SPSS software. Gastroesophageal reflux disease was defined by the association of pyrosis or regurgitation with an abnormality on fibroscopy or pH-metry suggestive of GERD.

Results:

We collected 133 patients who underwent conversion from SG to GBP, 51 of whom had GERD (female: 27, Roux-en-Y GBP: 51). The procedure was performed in 37 patients for GERD exclusively (27%), 14 for GERD and weight re-gain (10%). The average percentage of time spent with pH < 4 was 12%. Esophagitis lesions were identified at preoperative fibroscopy in 16 patients, including 5 ≥ LA grade C. Following surgery, RYGB resulted in resolution of GERD in 78% of patients at 6 and 12 months. The duration of follow-up was 23±22 months and at last reported date (LDR), the GERD remission rate was only 55%. Excess weight loss was 70±131%. Analyzing the whole cohort, 40 (32%) patients described symptomatic reflux after GBP at the end of the study. In multivariate analysis (logistic regression), the history of preoperative GERD was the only statistically significant factor predicting postoperative GERD (p=0.004).

Conclusions:

In SG to GBP conversions, preoperative GERD should be systematically investigated because its true incidence is underestimated and it influences the existence of postoperative GERD. In these cases, a systematic exploration of the hiatus, its possible repair and a cardiopexy could be justified and need to be evaluated.



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O-311

PREDICTORS OF GREATER THAN 50% EXCESS WEIGHT LOSS FIVE YEARS AFTER BARIATRIC SURGERY

Management of weight regain after surgery

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Background:

Bariatric surgery is known to produce good short-term weight loss results, with 50% excess weight loss (EWL) after surgery considered successful weight loss. However, most patients regain at least some weight after reaching a nadir of weight loss. Short term studies fail to capture weight regain patterns and their influencing factors.

Objectives:

The aim of this study was to characterise patients who achieve greater than 50% EWL 5 years after surgery and compare with those who do not achieve 50% EWL 5 years after surgery.

Methods:

119 consecutive patients were included in the study of which 58 patients underwent laparoscopic sleeve gastrectomy and 61 patients underwent laparoscopic gastric bypass. They were regularly followed up by our specialist team. Statistical analysis was carried out using SPSS.

Results:

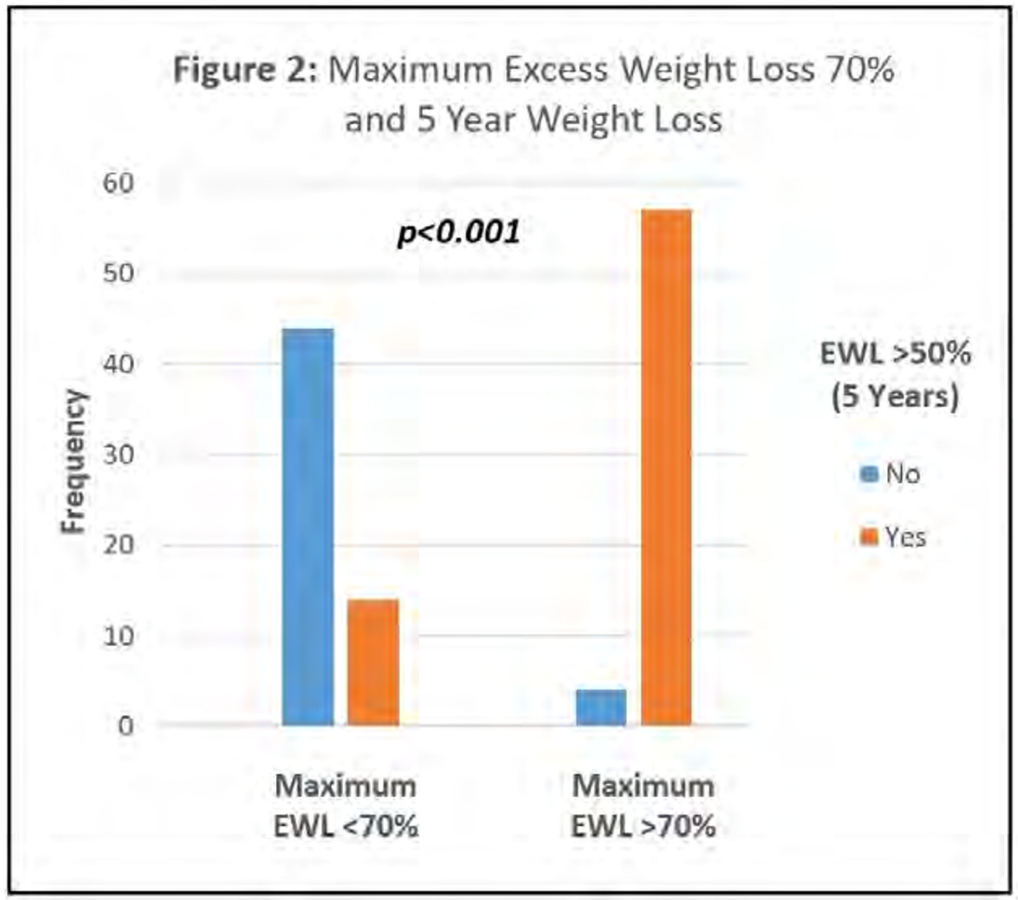
There was 100% follow up at 5 years. 71 patients (59.7%) achieved greater than 50% EWL and 48 patients (40.3%) achieved less than 50% EWL at 5 years. Older age, shorter height, higher baseline BMI and prescription of 2 or more psychiatric medications (e.g. antidepressants, antipsychotics) are less likely to achieve greater than 50% EWL at 5 years (Table 1). Maximum EWL was 77.8% in those with >50% EWL at 5 years compared to 56.1% in those with <50% EWL at 5 years ($p<0.001$) and in those who maintained weight loss at 5 years, EWL was consistently higher at all time points (Figure 1). Of those who had EWL of greater than 70% at any time point, 93.4% maintained >50% EWL at 5 years, whilst 24.1% of those who lost less than 70% EWL maintained >50% EWL at 5 years (Figure 2).

Conclusion:

Older patients, shorter patients, those with a higher baseline BMI and taking 2 or more psychiatric medications are less likely to achieve >50% EWL at 5 years in our cohort. Given the success in patients achieving EWL of >70% we recommend aiming for this target in every patient to increase the chance of long term EWL >50%.

Table 1: Patient Characteristics

	Greater than 50% EWL at 5 years (n=71)	Less than 50% EWL at 5 years (n=48)	P-value
Age (median, years)	45.8	49.8	0.046
Gender (% female)	71.8	75.0	0.702
Height (median, metres)	1.67	1.63	0.004
Operation (% bypass)	57.7	41.7	0.085
Baseline BMI (median)	50.4	53.3	0.002
Baseline diabetes (%)	31.0	37.5	0.461
Baseline statin (%)	25.4	33.3	0.344
Psychiatric medications prescribed (%)	33.8	45.8	0.186
≥2 psychiatric medications prescribed (%)	1.4	10.4	0.039



O-312

PREDICTORS OF MARGINAL ULCER AFTER BARIATRIC SURGERY: A SYSTEMATIC REVIEW AND META-ANALYSIS

Post-operative complications

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Introduction:

Marginal ulcer (MU) remains one of the most common complications after bariatric surgery (BS), especially Roux-en-Y gastric bypass (RYGB). Several studies have evaluated different risk factors associated with MU with inconsistent findings. In this meta-analysis, we aimed to identify the predictors of MU following BS.

Methods:

A comprehensive literature search of PubMed, Embase, and Web of Science databases was conducted through April 07, 2022. We included all studies that used a multivariate model to assess risk factors for MU after BS. We calculated pooled odds ratios (OR) with 95% confidence intervals (CI) for risk factors reported in ≥3 studies using a random-effects model. Leave-one-out sensitivity analysis was performed for risk factors reported by ≥5 studies to evaluate the robustness of our results.

Results:

Fourteen studies with 344,829 patients who underwent BS were included. Eleven different risk factors were reported in a multivariate model in ≥3 studies. Meta-analysis showed that helicobacter pylori (HP) infection (OR 4.97, 95% CI 2.24-10.99), smoking (OR 2.50, 95% CI 1.76-3.54), diabetes mellitus (DM) (OR 1.67, 95% CI 1.17-2.38), and larger gastric pouch (GP) size (OR 1.42, 95% CI 1.03-1.97) were significant predictors for MU after BS (Figure 1). Body mass index (OR 0.99, 95% CI 0.97-1.00), female gender (OR 0.99, 95% CI 0.49-2.00), obstructive sleep apnea (OR 2.09, 95% CI 0.59-7.42), hypertension (OR 1.06, 95% CI 0.68-1.64), alcohol intake (OR 1.15, 95% CI 0.91-1.46), nonsteroidal anti-inflammatory drugs (NSAIDs) (OR 2.43, 95% CI 0.72-8.21), and proton pump inhibitors (PPI) use (OR 0.44, 95% CI 0.11-2.11) were not significantly associated with increased risk of MU. The results remained consistent on the sensitivity analysis for alcohol use, female gender, hypertension, DM, and smoking. However, on sensitivity analysis, excluding Di Palma et al.'s study and Bekhali et al.' study, moved the overall effect of NSAIDs (OR 3.14, 95% CI 1.11-8.89) and PPI use (OR 0.21, 95% CI 0.12-0.37) to be an associative risk factor and protective factor for MU, respectively (Figure 2).

Conclusions:

Smoking cessation, avoiding NSAIDs, adequate glycemic control, eradication of HP infection, and optimal surgery with a small GP size can reduce the risk of MU following BS especially RYGB. Our findings could help establish a risk stratification model for predicting the occurrence of MU in patients receiving BS.

O-313

PREGNANCY OUTCOMES POST BARIATRIC SURGERY- A SINGLE CENTRE RETROSPECTIVE STUDY FROM INDIA

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Bariatric surgery presently is the best possible intervention for treatment of severe obesity and its related conditions. This study presents retrospective data on the pregnancy outcomes of Indian patients who underwent bariatric surgery before conception.

Methodology:

This is a single centre, retrospective, observational study. Data on demographics, pre-surgery weight, body mass index (BMI), types of bariatric surgery, weight at conception, weight gain during pregnancy, type of delivery and the health of the baby were collected and analysed to study the weight loss pattern and pregnancy outcomes in female patients of childbearing potential.

Results:

The study included 34 women of childbearing potential (BMI>30 kg/m 2) who underwent bariatric surgery. The study population was followed up from the time of surgery till one year post-delivery of the baby. The mean weight gain during the pregnancy was 14.9±5.4 kg. 23 underwent LSCS and the rest had normal delivery with mean baby weight of 2.5±0.4 kg. Six babies required neonatal intensive care. In our series only 4 of 35 cohorts that is only 11% had substantial weight retention (range 5-13 kgs) at the end of 12 months which is significantly lower than the normal cohorts who did not undergo bariatric surgery.

Conclusion:

Bariatric surgery improves fertility with safe pregnancy and its outcomes in terms of preeclampsia, eclampsia, gestational diabetes, premature rupture of the membranes (PROM), postpartum hemorrhage (PPH) and perpural sepsis in women with childbearing potential and safe for offspring in terms of shoulder dystocia, macrosomia, birth asphyxia and perinatal mortality.

O-314

PRELIMINARY REPORT COMPARING THE OUTCOME OF OAGB WITH 180CM BILIOPANCREATIC LIMB TO OAGB WITH BILIOPANCREATIC LIMB 200CM IN THE SUPER OBESE WITH TWO YEARS FOLLOW UP: A SINGLE CENTER PRELIMINARY REPORT

Investigational procedures

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Introduction:

Laparoscopic one anastomosis gastric bypass (OAGB) is a safe and effective treatment for patients with morbid obesity. However, the ideal length of the biliopancreatic limb in this operation remains controversial. In an effort to balance the weight loss outcome, comorbidity resolution and minimizing protein-calorie malnutrition the Biliopancreatic limb (BP) limb was standardized to 180cm in a cohort of patients. This study was undertaken to compare the outcome from a standard BP limb to limbs equal to or greater than 200cm in a cohort of super obese patients.

Surgical Modifications:

Initially the OAGB/MGB was performed with biliopancreatic (BP) limbs 200cm (group A). Because of a significant incidence of Protein caloric malnutrition in a significant percentage of patients with BP limbs 200cm, the BP limb was standardized to 180cm in a group of patients (Group B)

Method:

A retrospective review of prospectively maintained data in our bariatric database was done. Patients with BMI 50 kg/M2 who had an OAGB/MGB were identified. Data on age, gender, BMI, co morbid condition, weightloss, nutrient deficiencies and resolution of co-morbid conditions was collected on the two modifications of the OAGB/MGB that were performed in 2017, 2018 and 2019 at MBRSC. This is a preliminary report of a study comparing the outcome after the modifications. -

Results:

232 patients super obese patients underwent the OAGB/MGB. 102 had OAGB/MG with BP limb 200cm (group A), and 131with BP limb fixed at180cm (Group B) The groups were equally matched in the demographics. %TWL was 31.15% and20.26%in group A and B respectively at 2-year follow-up. Diabetes resolution was 66.6% and 44.4 % in group A and B respectively. Resolution of hypertension was 72% and 67% in group A and B respectively. The incidence of anaemia, protein, vitamin, and calcium deficiencies were higher in group A patients.

Conclusion:

In this study, Standardizing the BP limb to 180cm decreased the incidence of nutritional deficiencies at the expense of a lesser weight loss in patients with super obesity. There is need for more studies, with larger series and longer follow up to confirm these findings.

O-315

PREOPERATIVE BARIATRIC PATIENT CHARACTERISTICS DRIVING HIATAL HERNIA REPAIR DECISION BY OPERATING SURGEONS

Hernia surgery in the bariatric patient

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Introduction:

Hiatal hernia (HH) is routinely reported in 40% of bariatric surgery patients. Left unrepaired, HH can lead to significant reflux, regurgitation, and vomiting after surgery. We hypothesize that patients with preoperative reflux symptoms that have a higher body mass index (BMI) will receive hiatal hernia repairs (HHR) more often than patients with lower BMIs that do not have reflux symptoms.

Objectives:

The aim of this study was to analyze what type of patient receives HHR and the variables that drive the HHR decision by the operating surgeon. Secondly, this study sought to determine the correlation between HHR status, patient co-morbidities, and excess weight loss at 6 months, 1 year, and 2 years post-bariatric surgery.

Methods:

The records of 559 consecutive patients who underwent endoscopy in preparation for bariatric surgery were analyzed. Prevalence of HH was derived based on esophagogastroduodenoscopy (EGD) findings. The relationship between categorical participant attributes was calculated using chi-square or Fischer's exact test at the significance level of 0.05. Univariate and multivariate regression analysis was performed to investigate the association between HHR status and patient attributes.

Results:

The groups consisted of 295 Roux-en-y-Gastric Bypass (RYGB) and 264 Sleeve gastrectomy (SG) patients. Upper endoscopy evaluation identified HH in 289 patients (56%; RYGB = 149, SG = 140). Pre-operative factors of having gastroesophageal reflux disease (GERD), obstructive sleep apnea (OSA), hypertension (HTN), and hyperlipidemia (HPL) did not significantly impact HHR status. No difference in HHR status was found between 6 month, 1 year, and 2 year percent excess body weight loss, BMI, OSA, and number of HTN medications. A higher preoperative BMI, female gender, duodenitis on EGD pathology report, insulin-dependent diabetes mellitus (DM), and RYGB all were statistically significant factors for receiving a HHR ($p < .05$).

Conclusion:

HH is common in bariatric patients. HH is a risk factor for reflux, and the HHR decision-making criteria of operating surgeons is poorly reported in current literature. While some pre-operative patient characteristics may not impact a surgeon's HHR decision, our study suggests that BMI, gender, duodenitis, DM, and RYGB all may influence a surgeon to repair a HH in a bariatric patient. Future research evaluating improvement in reflux symptoms after HH repair should be undertaken.

O-316

PREOPERATIVE RISK FACTORS FOR EARLY POSTOPERATIVE GASTROINTESTINAL BLEEDING AFTER ROUX-EN-Y GASTRIC BYPASS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Endoscopic and percutaneous interventional procedures

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[1]General Surgery, São João University Medical Center; Faculty of Medicine, University of Porto, Porto, Portugal; [2]São João University Medical Center, Porto, Portugal; [3]Obesity Integrated Responsability Unit (CRI-O), São João University Medical Center, Porto, Portugal; [4]Instituto de Medicina Molecular João Lobo Antunes, Lisbon, Portugal.

Background:

Early postoperative gastrointestinal bleeding is one of the most common complications after Roux-en-Y gastric bypass (RYGB). Its occurrence is associated with worst postoperative outcomes and a higher morbidity. This systematic review and meta-analysis aimed to find preoperative risk factors for early postoperative gastrointestinal bleeding after RYGB and quantify their impact.

Methods:

PubMed, Scopus, Web of Science and gray literature were searched for experimental or observational studies, published up to 4th December 2020. A random-effects model was used to determine pooled estimates of the results. The primary outcome was early postoperative gastrointestinal bleeding after Roux-en-Y gastric bypass in patients with and without a given preoperative factor.

Results:

A total of 13 studies, including 162,982 patients were included in our systematic review. Meta-analysis revealed that male gender (OR=1.39, 95% CI = 1.12-1.73, p=0.003), hypertension (OR=1.55, 95% CI = 1.25-1.85, p<0.001), dyslipidemia (OR=1.42, 95%CI = 1.02-1.98, p=0.04) and a previous bariatric surgery (implying revisional RYGB surgery) (OR=1.35, 95% CI = 1.08-1.68, p=0.008) were associated with early postoperative gastrointestinal bleeding after RYGB surgery. Otherwise, age (mean difference=2.75 years, 95%CI =-0.09-5.60, p=0.06), BMI > 50 (OR=0.99, 95%CI = 0.84-1.18, p=0.96), diabetes mellitus (OR=1.33, 95%CI = 0.74-2.39, p=0.35) and obstructive sleep apnea (OSA) (OR=1.24, 95%CI = 0.96-1.58, p=0.09) were not associated with this complication.

Conclusion:

In this systematic review and meta-analysis, male gender, hypertension, dyslipidemia, and previous bariatric surgery were associated with a higher rate of early postoperative gastrointestinal bleeding after RYGB. This association was not statistically significant with age, superobesity, diabetes mellitus and OSA. Further investigation on preoperative risk factors for early postoperative gastrointestinal bleeding after RYGB is required to confirm these results.

O-317

PREOPERATIVE WEIGHT LOSS IS ASSOCIATED WITH SHORTER OPERATIVE TIME AND HOSPITAL STAY AND DECREASED RATES OF READMISSION WITHOUT INCREASED ADVERSE EVENTS IN BARIATRIC SURGERY PATIENTS

Perioperative management

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Background:

Despite a high body mass index (BMI), micronutrient and protein malnutrition are known to coexist in patients with obesity, thus creating the obesity paradox. Recent studies have shown increased adverse outcomes in these patients compared to BMI-matched patients.

Objectives:

This study investigates the effect of preoperative reduction of BMI on perioperative outcomes and mortality following bariatric surgery.

Methods:

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was queried for patients who underwent laparoscopic sleeve gastrectomy (LSG) and gastric bypass (LGBP). BMI change was calculated by subtracting the BMI recorded closest to a patient's surgery date from the patient's highest recorded BMI. The effect of BMI change on operative time and hospital length of stay was analyzed by linear regression models. The effect of preoperative BMI reduction on 30-day mortality, leak rate, intensive care unit (ICU) admission, renal failure, sepsis, pulmonary embolism (PE), and intubation greater than 48 hours was analyzed using binary logistic recession models to correct for confounders.

Results:

There were 147,141 total patients identified, 79.5% of which were female. Mean age was 44.6 years. There were 107,726 patients (73.2%) who underwent LSG and 39,425 patients (26.8%) who underwent LGBP. The effects of BMI reduction after correcting for confounding factors on 30-day mortality (p=0.215), ICU admission (p=0.120), leak rate (p=0.421), PE (p=0.581), pneumonia (p=0.322), intubation greater than 48 hours (p=0.672), and sepsis (p=0.171) were all non-significant. However, preoperative reduction in BMI was associated with reduced readmission rate (OR 0.952, 95% CI 0.891-0.995, p=0.041), shorter operative time (slope coefficient -0.178, p<0.001) and decreased hospital length of stay (slope coefficient -0.103, p<0.001).

Conclusion:

In this study, preoperative weight loss was not associated with increased adverse events. Conversely, operative time, hospital length of stay, and readmission rates were significantly improved with preoperative reduction in BMI. Preoperative weight loss should therefore be encouraged in patients undergoing bariatric surgery.

O-318

PRESENTATION, EVALUATION, AND MANAGEMENT OF POST-BARIATRIC SURGERY HYPOGLYCAEMIA (PBSH) – A SINGLE-CENTRE STUDY

Endoscopic and percutaneous interventional procedures

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Background:

The true prevalence of post-bariatric surgery hypoglycaemia (PBSH) remains unclear and knowledge of pharmacological management is evolving.

Objectives:

To evaluate the incidence, patient characteristics, and management outcome of PBSH in a single centre over an 11-year period.

Methods:

Retrospective case-note review of patients undergoing bariatric surgery between December 2008 and December 2019.

Results:

A total of 643 patients underwent primary bariatric surgical intervention during the study period. Laparoscopic gastric bypass (GB) was performed in 453(70%) patients. No patient undergoing sleeve gastrectomy developed PBSH. 14 (3.1%) patients undergoing GB were diagnosed with PBSH.

The mean(sd) age was 48(8) years. Mean time to presentation was 16(11) months. The mean follow-up duration was 38(14) months. A greater proportion were male (29% vs 22%, p<0.001), smokers (21% vs 11%, p<0.001) and on lipid lowering medications (50% vs 27%, p<0.001) than those not developing PBSH. There were fewer patients on diabetic (7% vs 19%, p<0.001) and antihypertensive medications (29% vs 46%, P<0.001). There was a greater percentage excess body weight loss (88(19)% vs 74(22)%, p<0.015) at 12 months. The incidence of marginal ulcers was higher (21% vs 5%, p < 0.001) in the PBSH cohort.

57%(8) patients achieved symptom control with diet alone. 36%(5) patients required monotherapy with metformin(4) or acarbose(1). 7%(1) patient required dual therapy with acarbose and diazoxide. No patient required surgical intervention.

Conclusions:

Our experience suggests that the incidence of clinically relevant PBSH is low and occurs more commonly in male, smokers with hyperlipidaemia who have a greater excess weight loss at 12 months post-operative. Paradoxically it is less common in patients on antihypertensives and uncommon in patients with prior diabetes. Diagnosis is made at least 6 months post-operatively. Most cases of PBSH can be successfully managed with diet or monotherapy. We believe this is the first reported study of successful treatment of PBSH with metformin as a 2nd line intervention after diet.

O-319

PREVALENCE OF NUTRITIONAL DEFICIENCY AMONG INDIAN OBESE PATIENTS SEEKING BARIATRIC METABOLIC SURGERY AT A SINGLE CENTRE

Nutrition, eating behaviors before and after bariatric surgery

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Background:

Obesity is a state of over-nutrition. However, food choices by patients with obesity, calorie-dense food, too much intake of processed food and ready to eat (take-away) foods, result in certain nutritional deficiencies.

Objective:

Assessment of prevalence of certain nutritional deficiencies in patients with obesity eligible for Bariatric Surgery at MBRSC.

Method:

This is a retrospective analysis of data from a prospectively maintained database on patients evaluated for Bariatric Surgery at MBRSC. Data on pre-operative nutritional screening that included hemoglobin, total protein, albumin, calcium, vitamin B12, vitamin D3 and dietary restrictions was collected and recorded. Data on age, gender, and body mass index (BMI) was also collected. A review and analysis of this data is presented.

Results:

11,607 patients were identified in the database. 50% were females and the average age was 43.1±12.6 years. The mean weight was 118.00 ± 24.9 kg with a BMI of 43.5±8.9 kg/m2. 30% of patients were non-vegetarian with consumption of eggs or animal food once a week. 2813 (24.2%) patients were found severely deficient in vitamin B12, 1028 (8.8 %) patients had low Hgb. 643(5.5%) had low albumin, 548 (4.7%) had hypoproteinemia, 175 (1.5%) patients had low calcium and 143 (1.2%) had Vitamin D3 deficiency. The incidence of the deficiencies was higher in females. 36.35% had low Vitamin B12, 20.7% low Hgb., 12.2% low albumin, 8.7% low protein, 3.2% low calcium and 2.8% low Vitamin D3. Significant nutritional deficiencies were corrected before the surgery.

Conclusion:

Vitamin B12 was the most common deficiency observed. Females with obesity are more nutritionally depleted. among the overall population. Vegetarians and patients with irregular diet habits had a higher incidence of deficiency. These results highlight the importance of pre-nutritional screening.

O-320

PREVALENCIA E IMPLICACIONES DE LA INFECCIÓN POR HELYCOBACTER PILORY Y GASTRITIS CRÓNICA EN CIRUGÍA BARIÁTRICA Y METABÓLICA

Endoscopia y vigilancia después de la cirugía bariátrica

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Introduccion:

A nivel mundial el Helicobacter Pylori (HP) esta presente en cerca del 50% de la población en general, sin embargo; su implicacion y prevalencia en pacientes con obesidad aun sigue siendo controversial.
Existen diversos estudios que demuestran una menor prevalencia de HP en pacientes obesos y aumento de peso en aquellos pacientes a los que se erradica dicha infección, lo que sugiere que su presencia podria actuar como factor protector contra la obesidad, no obstante, su detección y erradicación se considera importante en la cirugía bariátrica, debido a las múltiples alteraciones gastrointestinales fisiologicas y homeostaticas que suceden posterior a un procedimiento bariátrico como reflujo y por ende mayor uso de inhibidores de la bomba de protones, alteraciones que predisponen un comportamiento no esperado del HP, que de por si se sabe; es un predictor independiente para la úlcera marginal en pacientes sometidos a bypass gástrico, así como un carcinógeno gástrico.
La endoscopia preoperatoria en la cirugía bariatrica ha demostrado una mayor prevalencia de gastritis crónica (GC) 23.7% frente a un 11.8% en comparación con grupo control de la misma edad y sexo, pero con un IMC normal, sin que por ello exista una correlación con la presencia de HP.

Objetivo:

Identificar la prevalencia de gastritis crónica y Helicobacter pylori en pacientes a quien se realizó cirugía bariatrica y metabólica en nuestra población de pacientes.
Determinar la incidencia de HP
Determinar la incidencia de GC
Identificar correlación entre GC y HP

Método:

Se realizo endoscopia 2 semanas previas a la intervención quirúrgica o en el preoperatorio inmediato a todo paciente intervenido a una cirugía bariatrica y metabólica durante los meses de Febero, Marzo y Abril y se tomo muestra histológica del cuerpo y antro gástrico para análisis patológico e identificación del HP, y Gástritis crónica. Se valoró su evolución durante los primeros 4 días posteriores a su intervención quirúrgica.

Resultados:

Del total de muestras (350) durante los meses de Febrero, Marzo y Abril, se descartaron 20 muestras debido a muestras mal tomadas o resultados inconclusos, 69 pacientes (21%), presentaron HP y 155 (47%) GC sin presencia de HP, solo un paciente presentó sangrado postoperatorio al 2er día de la intervención y un paciente requirió conversión de gastrectomia vertial a bypass gástrico por torsión gástrica al 3er día del postoperatorio, el resto no presento complicaciones durante los subsecuentes 4 días.

Conclusión:

Actualmente es controversial la incidencia de HP y GC en pacientes obesos, sin embargo; en nuestra población de estudio se corroboró una prevalencia baja de HP, pero una prevalencia alta de GC sin presencia de HP, ambas condiciones no se asociaron a complicaciones quirúrgicas postoperatorias inmediatas.

O-321

PREVENTING INTENSIVE RESOURCE UTILIZATION IN BARIATRIC SURGERY THROUGH PRE-OPERATIVE RESPIRATORY OPTIMIZATION AND THE IMPLEMENTATION OF A PERIOPERATIVE TRIAGE GUIDELINE

Perioperative management

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Background:

Obstructive Sleep Apnea (OSA), present in up-to 70% of patients awaiting Bariatric Surgery (BS) poses significant post-operative risk. Continuous positive airway pressure (CPAP) is an effective treatment for OSA and if used peri-operatively may help mitigate common post-operative complications and need for intensive post-op monitoring.

Objectives:

To determine if a management guideline based on preoperative risk assessment, universal OSA screening and CPAP treatment of moderate/severe OSA influences:

1) Need for a post-op monitored bed 2)post-op complications

Methods:

All patients entering the Richmond Metabolic and Bariatric Surgery Program had a home sleep apnea test. Patients with moderate (15/hr≤ Apnea Hypopnea index (AHI) ≤30/hr) or severe OSA (AHI ≥30/hr) were evaluated by a pulmonologist, provided OSA education and CPAP, and followed for compliance (≥ 4hours/night). Preoperative assessment by anesthesiology identified the appropriate post-op unit according to risk criteria (e.g. severity of obesity, OSA, co-morbidities, CPAP compliance). CPAP was started in the post anesthetic unit for OSA patients and all were monitored for apnea and desaturations. High-risk patients were transferred to a monitored unit, the rest to the surgical ward.

We compared outcomes in 251 patients managed according to this guideline to 250 patients managed with usual care, by retrospective review.

Results:

Post-intervention vs pre-intervention, there were no significant differences in demographics, co-morbidities, frequency (65.7 vs 71.8%) or severity of OSA, however there was more Roux-en-Y gastric bypass (25.6 vs 12.9%) and shorter surgical length (135 vs 162 min). Post-op admissions to the ICU (2.0 vs 9.1%), HAU (9.6 vs 18.3%) and telemetry unit (19.6 vs 39.0%) were less ($p<0.0001$), with a significantly shorter length of stay (1.3 vs 2.3 days, $p<0.0001$) and no significant increase in respiratory complications (4.8 vs 2.3%, $p=0.15$).

Conclusions:

This study presents a peri-operative triage guideline to optimize healthcare unit utilization for BS patients with OSA. Along with standard pre and post-op CPAP for OSA, this study shows how stratification to units with less monitoring can be used with no increase in complications and concurrent reduced lengths of stay. This is highly applicable to BS programs with financial or surgical incentivized initiatives, as a means of achieving cost reduction per patient, and achieving excellence in peri-operative care.

O-322

PRIMARY ROBOT-ASSISTED SINGLE-ANASTOMOSIS DUODENO-ILEAL BYPASS WITH SLEEVE GASTRECTOMY FOR MORBID OBESITY: EARLY OUTCOMES FROM A CHINESE INSTITUTION

Robotic bariatric surgery

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Background:

As a simplified surgical procedure of biliopancreatic diversion with duodenal switch (BPD/DS), single anastomosis duodenal-ileal bypass with sleeve gastrectomy (SADI-S) is reported to have similar effect on weight loss and obesity-related comorbidities with lower complication rates compared with BPD/DS. Robotic systems has been applied gradually in bariatric surgery because of its ability to overcome technical challenges. However, so far there are no data on robotic-assisted SADI-S in China. We reviewed our early outcomes of robotic-assisted SADI-S in our institution.

Objective:

The aim of this study was to review the safety of primary robotic-assisted SADI-S in Chinese patients with morbid obesity.

Methods:

The clinical data from thirty patients who underwent primary robotic-assisted SADI-S (Trocar position with their respective robotic arms were shown in figure 1, The diagram of SADI-S was shown in figure 2) performed by the same surgeon at a single institution between March 2020 and September 2020 were reviewed retrospectively. All revision bariatric surgeries were excluded. The 30-day and 90-day complication and readmission rates were analyzed. No patient was lost to follow-up.

Results:

Thirty patients with a median age of 34 years (range 18–53) (10 men and 20 women) were included in this study. The preoperative mean body weight, body mass index and waistline was 119.83±27.18kg,41.88±6.62kg/m2 and 125.43±13.70cm, respectively (Table 1). All patients underwent successfully primary robot-assist SADI-S without mortality. The mean operative time was 195.17±43.49 min. The postoperative median hospital length of stay was 6 days (range 0-20 days). Thirty-day follow-up revealed two major complications in 2 patients (6.7%) while there was 1 major event in one patient (3.3%) after 30 days. None of them was readmitted within 30 days and there was 1 (3.3%) readmission occurred past 30 days, but within 90-day period. One patient (3.3%) who suffered from gastric leakage needed re-operation beyond 30 days, but within 90-day period.

Conclusion:

Primary robot-assisted SADI-S is safe, feasible, and reproductive surgical procedure with low early morbidity in Chinese patients with morbid obesity.

Table 1 Patient demographic data

Demographics	
Sex (female/male)	10/20
Age(years)	34 (range 18–53)
Body weight(kg)	119.83±27.18
Body mass index(kg/m2)	41.88±6.62
Waistline(cm)	125.43±13.70
Number of comorbidities Type 2 diabetes Hypertension Hyperuricemia Dyslipidemia	 15(50%) 15(50%) 17(56.7%) 20(66.7%)

Fig. 1 Trocar position with their respective robotic arms

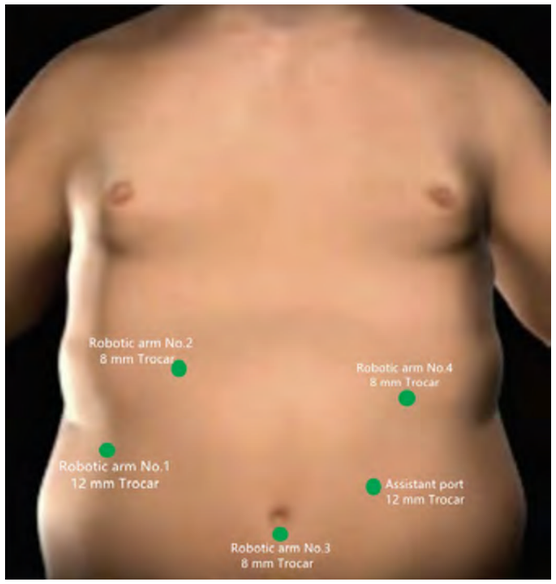
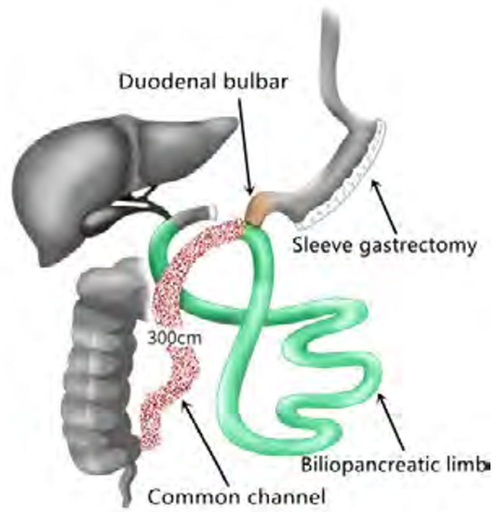


Fig. 2 The single anastomosis duodenal-ileal bypass with sleeve gastrectomy(SADI-S) performed for the treatment of morbid obesity. The operation consists mainly sleeve gastrectomy over a 34Fr bougie tube and duodenal ileum anastomosis with a common channel length of 300 cm.



O-323

PRIMARY OBESITY SURGERY ENDOLUMINAL (POSE 2.0) FOR TREATMENT OF OBESITY: RESULTS AT TWO YEARS

Endoscopic and percutaneous interventional procedures

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Introduction:

The modified primary obesity surgery endoluminal (POSE 2.0, USGI San Clemente, CA) procedure was developed with a premise to shorten and narrow the stomach using multiple interrupted full-thickness plications in the gastric body. The short-term weight loss results and durability is encouraging. However, longer follow-up data is needed. We aimed to prospectively study the efficacy and safety of the POSE 2.0 for the primary treatment of obesity at 2-year.

Methods:

We identified 79 patients who underwent POSE 2.0 at HM Sanchinarro University Hospital, Madrid, Spain, between September 2018 to January 2020. Two endoscopists performed all the procedures under general anesthesia. We created 4 rows of folded plication with 4-5 plications per row in the body of the stomach to shorten and narrow it (Figure 1). We followed the patient twice a month and advocated a moderate intensity exercise intervention. The primary outcome was to evaluate the %total body weight loss (%TBWL) at 2 years, and the secondary outcome was to assess the safety. The institutional review committee approved the study. We reported continuous variables as mean and standard deviation (SD) and categorical variables as percentages. We used paired t-test and chi-square statistics.

Results:

The mean (SD) age was 50.2 (10.4) years, and the mean BMI was 38.2 (6.3) kg/m2. A majority were (67%) female. The procedure was technically successful (100%) in all patients. An average of 18 (range,15-20) full-thickness plications were placed to reduce the gastric volume. Seventy-five (95%) patients reached 18 months, and 47 (59%) completed 24 months follow-up (Table-1). The mean TBWL, %TBWL, and the BMI decline at 18 months was 22.6 (12) kg, 19.8 (8.1)%, and 7.9 (4) Kg/m2, and at 24 months was 18.2 (11) kg, 16.4 (8.6)%, 6.4 (3.8) kg/m2, respectively (p<0.001) (Table-2). Adverse events occurred in 4 patients [2 gastric perforation and 2 asymptomatic drop in haemoglobin (>2g/dl)]. We closed the perforation immediately by endoscopy and the anaemia was treated conservatively. No long term complications occurred. The average length of hospital stay was 1 day (range, 1-2 days).

Conclusion:

POSE 2.0 procedure is safe and effective for the treatment of obesity. The weight loss achieved is maintained till 2 years and meets the threshold required to show improvement in obesity-related comorbids.

Figure 1: Endoscopic appearance of stomach after POSE-2

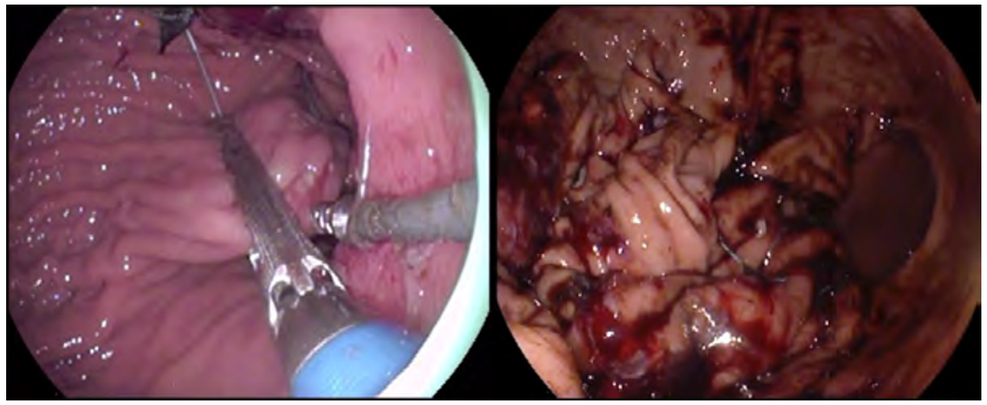

Table1: Baseline characteristics of study participants

	Patients (n= 79)
Age (SD), years	50.2 (10.4)
Female, %	53 (67%)
Mean (SD), Weight, Kg	109 (22.2)
Mean (SD) Initial BMI, Kg/m2	38.2 (6.3)
Technical success	100%
Mean (range) Sutures placed	18 (15-20)
Length of stay (range), days	1 (1-2)
Adverse Events	4 (4%)
Completed 12 months follow-up	79 (100%)
Completed 18 months follow-up	75 (95%)
Completed 24 months follow-up	47 (59%)

Table 2: Weight loss outcomes after POSE-2

	12-month	18-month	24-month	p-value
TBWL	14.6 (17.2)	22.6 (12)	18.2 (11)	<0.001
%TBWL	11.8 (4.4)	19.8 (8.1)	16.4 (8.6)	<0.001
BMI Decline	2.8 (3.8)	7.9 (4)	6.4 (3.8)	<0.001

O-324
PROCEDURAL CHANGES TO DECREASE SURGICAL SITE INFECTION IN CIRCULAR STAPLER ROUX-EN-Y GASTRIC BYPASS AND SLEEVE TO BYPASS CONVERSION

Post-operative complications

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Background:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) has been established as one of the leading treatments of obesity. Surgical site infections (SSI) remain the most common complication.

Objective:

To compare the incidence of SSI before and after the implementation of our surgical technique.

Methods:

Our intra-operative technique limits enteric contact with the abdominal wall through a wound protector at the end-to-end anastomosis stapler port site, enteric retrieval with a specimen bag followed by betadine irrigation. We analyzed our SSI outcomes before and after implementation of our technique in all RYGB and laparoscopic sleeve to bypass conversions at our institution performed by two providers between the years of 2009-2011 and 2019-2021. We compared patient age, sex, body mass index (BMI), american society of anesthesiologists (ASA) class; and comorbidities including hypertension, diabetes and hyperlipidemia. X2 and T tests and multivariate analysis were performed.

Results:

429 patients underwent LRYGB and sleeve to bypass conversion within 2009-2011 and 2019-2021. The pre-implementation cohort, group 1, included a total of 162 patients (37.76%) all underwent RYGB. The post-implementation cohort, group 2, included 267 patients (62.24%) 199 underwent RYGB and 68 underwent a laparoscopic sleeve-to-bypass conversion. Both groups were statistically similar along all categories except for length of stay (LOS) with group 1 averaging 2.62 days and group 2 averaging 1.49 days. They also differed in smoking status with group 1 having a total of 13 positive smoker subjects (8.02%), contrary to zero smoking subjects in group 2 (0%, P= 0.000015). The SSI rate was 9.26% in group 1 and 2.62% in group 2 (p= 0.002514).

Conclusion:

We propose a safe reproducible technique that significantly reduces SSI rates during LRYGB with the potential to lower recovery, hospital costs, and burden upon the healthcare system.

Table 1. Patient Demographics

Patient demographics	Group 1 (n=162)	Group 2 (n= 267)	P
RYGB, n (%)	162 (100%)	199 (74.53%)	.00001
Female sex, n (%)	139 (85.80%)	236 (88.39%)	0.433
Age; mean ∓ SD	40.92 ∓ 12.69	35.5 ∓ 11.95	0.039
BMI; mean ∓ SD	48.55 ∓ 7.03	42.77 ∓ 7.34	–
ASA class; median (%)	3 (51.23%)	3 (71.54%)	–
LOS (days); mean +SD	2.62 + 1.59	1.49 + 0.96	–
Current smoker; n (%)	13 (8.02%)	0 (0%)	0.000015
Steroid use; n (%)	0 (0%)	3 (1.16%)	0.698
Hypertension; n(%)	57 (35.19%)	133 (49.81%)	0.003107
Diabetes Mellitus; n(%)	37 (22.84%)	84 (31.46%)	0.54391
Hyperlipidemia; n(%)	34 (20.99%)	64 (23.97%)	0.475654

RYGB = Roux-en-Y Gastric Bypass; SD = standard deviation; BMI = body mass index; ASA= mAmerican Society of Anesthesiologists; LOS= length of stay

Table 2. Patients presenting with SSI

	Group 1 (n= 15)	Group 2 (n=7)
Days between procedure and detection: mean ∓ SD	9.93 ∓ 5.76	14.28 ∓ 9.96
LOS for readmission (days); median	3	1
Imaging studies; n(%)	7 (46.67%)	3 (42.85%)
Abdominal CT	6 (40%)	4 (57.14)
Abdominal US	1 (6.67%)	1 (14.29%)
I&D; n(%)	13 (86.66%)	7 (100%)
Wound culture; n(%)	11 (73.33%)	4 (57.14%)
Eikenella corrodens	1	0
Enterobacter cloacae	1	0
Escherichia coli	1	1
Group B streptococcus	2	0
Haemophilus parainfluenzae	1	0
Serratia marcescens	1	0
Staphylococcus aureus	3	0
Streptococcus anginosus	0	1
Streptococcus constellatus	0	5
Streptococcus viridans	3	0
Blood culture; n(%)	11 (73.33%)	3 (42.85)
Positive blood culture	0	0
Urine culture; n(%)	2 (13.33%)	2 (14.28%)
Positive urine culture	2	0
IV antibiotics; n(%)	14 (93.33%)	4 (57.14%)
VNS; n(%)	6 (40%)	4 (57.14%)

SD= standard deviation; LOS = length of stay; CT = computerized tomography; US = ultrasound; I&D = incision and drainage; IV = intravenous; VNS = visiting nurse services

O-325

PROGNOSTIC FACTORS FOR THE LONG-TERM SUCCESSFUL OUTCOME OF SLEEVE GASTRECTOMY

Sleeve plus

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Introduction:

Sleeve gastrectomy is currently the most widely used surgical technique in bariatric surgery. Long-term follow-up studies show heterogeneous results, and there is no clarity regarding its prognostic factors. The objective of this study is to establish an association between demographic and post-operative factors with successful sleeve gastrectomy.

Methods:

Retrospective cohort study with long-term follow-up (5 to 12 years). To determine the risk, the variables evaluated were age, sex, preoperative BMI, minimum BMI, and comorbidities. Failure of the surgery was considered when the loss of excess weight was < 50%. A logistic regression was performed to determine the weight loss failure.

Results:

Of 1299 patients, 621 met the inclusion and exclusion criteria. The percentage of excess weight lost was of 83,3%, while 5,76% failed during the immediate postoperative period. After the follow-up, 55,36% of the patients regained weight, and only 44,64% maintained their weight loss. Univariate and multivariate analysis showed a non-significative relation for sex and age. Preoperative BMI was marginally significant at 90%, with a cut-off point of 31,47Kg/m2, where the probability of success of sleeve gastrectomy is greater in patients with a preoperative BMI lower than this value. Lastly, the minimum BMI reached, presented an important and significative relation at 99%, with a cut-off point at 24,87 Kg/m2, in other words, if the patients achieve a BMI equal to or lower than this value, they have higher probabilities of success for the surgery in the long-term.

Conclusión:

Sleeve gastrectomy has a long-term success rate of 44,64%, and the most important predictive factor for the success of the surgery is the minimum BMI with a cut-off point at 24,87 Kg/m2.

O-326

PROSPECTIVE OBSERVATIONAL STUDY COMPARING EFFICACY AND SAFETY OF SADI-S VS ROUX-EN-Y GASTRIC BYPASS AT MID-TERM FOLLOW-UP

SADIs

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Introduction:

Roux-en-Y gastric bypass (RYGB) is the gold standard bariatric procedure with good weight loss and resolution of metabolic comorbidities. Nevertheless, regain weight or uncontrolled metabolic syndrome has been reported at mid-term follow-up. Single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) is a new bariatric procedure emerged within the last two decades, which has proved to be less demanding than other malabsorptive techniques.

Objectives:

The main objective is to analyse weight loss results and effectiveness in terms of comorbidity treatment at 3-years of follow-up.

Methods:

This is a prospective observational study of 136 patients undergoing SADI-S or RYGB from July 2009 to December 2013, 68 patients each arm.

Results:

There are not statistically differences between groups in terms of demographic characteristics and comorbidities, besides higher rates of Diabetes Mellitus type 2 (DM2) and Sleep apnea/hyponea syndrome (SAHS) in SADI-S (63.2 vs 32.4% and 58.8 vs 35.3%, p<0.001 and p=0.005, respectively).

SADI-S obtains better results in weight loss 1-year after surgery, body mass index and percentage of excess weight loss (BMI-1y 26.37±3.21 vs 29.43±3.85, p<0.001 and %EWL-1y 95.09±16.39 vs 78.28±17.68, p<0.001) and 3-years after surgery (BMI-3y 26.18±3.32 vs 30.71±4.22, p<0.001 and %EWL-3y 94.73±16.33 vs 73.86±18.51, p<0.001). Comorbidities resolution with SADI-S are similar to RYGB outcomes at 1-year of follow-up with DM2, hypertension or SAHS remission or improvement about 88.4%, 86.4% and 62.5%, respectively.

SADI-S increases number of bowel movements compared to RYGB (≥4 times/day: 29.4 vs 4.4%, p<0.001), but only 3 cases required surgery to lengthen the common limb. There are no significant differences SADI-S and RYGB in reoperation (16.2 vs 8.8%, p=0.098), emergency consultation (17.6 vs 8.8%, p=0.131), postoperative complications (8.8 vs 20.6, p=0.066), Clavien-Dindo classification IV (5.9 vs 2.9%, p=0.924), hospital stay (7.19±8.18 vs 7.12±9.63, p=0.962) and readmission (13.2 vs 4.4%, p=0.071). There is no surgical related mortality within the studied period, neither SADI-S nor RYGB group.

Conclusion:

SADI-S achieved significantly better weight loss results at 1-year and 3-years after surgery. There are not statistically differences with postoperative complications emergency department visits or reoperation between both techniques.

O-327

PUSHING THE LIMITS IN BARIATRIC SURGERY: LAPAROSCOPIC SLEEVE GASTRECTOMY FOR PATIENTS OVER 65 YEARS OLD WITH SEVERE OBESITY.

Bariatric surgery in the over 65s

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Background:

The prevalence of severe obesity is rising worldwide reaching epidemic proportions, without sparing any age group. Most elderly patients suffer from multiple co-morbid conditions, which are greatly aggravated when severe obesity coexists. In the past 2 decades, bariatric surgery has become an increasingly popular form for the treatment of severe obesity. Currently, laparoscopic sleeve gastrectomy (LSG) has been established as a widely accepted, stand-alone bariatric procedure. Data on elderly patients undergoing LSG are scarce, with very few data regarding patients older than 65 years old.

Objectives:

To demonstrate that LSG is safe and effective for patients over 65 years old with severe obesity.

Methods:

Data from consecutive patients over 65 years old undergoing LSG were progressively collected and retrospectively analyzed. Patients with more than 1-year follow-up were included in the analysis. Quality of life (QoL) was evaluated using the Short-Form 36 questionnaire.

Results:

Seventy-two patients over 65 years old (65–75 years) underwent LSG in our department. Median weight was 122 kg, median BMI 43.5 kg/m2. Median duration of surgery was 84 minutes. Two patients (2.8%) suffered a gastric staple-line leak, treated by pure endoscopic internal drainage in the first case, and relaparoscopy coupled to endoscopy in the second case. Mortality was null. Six, 12 and 24 months after LSG, median BMI decreased significantly to 35.4, 32.4 and 30.2 kg/m2, respectively ($p < 0.001$), with mean excess weight loss of 77% at 2 years. Type II diabetes, hypertension, dyslipidemia, sleep apnea and arthralgia showed statistically significant remission at one and two years after surgery. Six out of 8 SF-36 scale scores of QoL assessment improved significantly.

Conclusion:

This study suggests that LSG is safe and effective for patients over 65 years old, providing significant weight loss, comorbidity resolution and QoL improvement. Severely obese patients over 65 years-old should not automatically be denied LSG. To push the superior age limit for bariatric surgery over 65 years old, careful patient selection is essential. This selection should be made after adequate risk versus benefit evaluation by an expert multidisciplinary team, increasing thus safety and the possibility to obtain optimal results.

O-328

QUALIDADE ALIMENTAR E QUALIDADE DE VIDA DE INDIVÍDUOS OBESOS SUBMETIDOS À CIRURGIA BARIÁTRICA COM A TÉCNICA BY PASS

Behavioral health and bariatric surgery: Pre and post-op challenges

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Introdução:

A obesidade é uma doença crônica, multifatorial, que dispõe de diversas abordagens de tratamento, sendo uma delas a cirurgia bariátrica (CB). Quando indicada, deve haver acompanhamento multidisciplinar, com fundamental presença do fonoaudiólogo, devido à possibilidade de inadequações nas funções do sistema estomatognático, como mastigação e deglutição, tanto no pré como no pós-cirúrgico.

Objetivo:

Caracterizar a qualidade de alimentação (QA) e a qualidade de vida (QV) de indivíduos obesos, em atendimento fonoaudiológico, no pré e pós-operatório de cirurgia bariátrica com a técnica by pass.

Métodos:

Estudo transversal, realizado em uma clínica particular da região Sul do Brasil. A amostra foi composta por 27 sujeitos, com média de idade de 40,9 anos (mínimo 24 anos e máximo 63) em preparação ou que já tenham realizado a CB, divididos em três grupos distintos, conforme período de acompanhamento: pré-operatório (8) (G1), pós-operatório de dois meses, (9) (G2) e pós-operatório de seis meses, (10) (G3). Avaliou-se QA por meio do protocolo Quality of Alimentation e QV por meio do protocolo WHOQOL-BREF. Os protocolos foram aplicados de forma individualizada, em sala reservada, imediatamente antes da consulta fonoaudiológica.

Resultados:

A QA foi pior no G2 quando comparado com G1 e G3, embora o resultado não tenha sido estatisticamente significativo. O G3 apresentou satisfação com a alimentação 45,4% superior em relação ao G1. A QV demonstrou diferença significativa (p 0,004**) na comparação do G1 com G2 e G3 no escore geral do protocolo, evidenciando uma taxa de crescimento de 96% na comparação do G1 com o G3. Além disso, a satisfação geral com a saúde, avaliada no questionário de QV, foi 140% maior na comparação do G1 com G3. Quando correlacionados os questionários, pode-se observar que quanto maior a QA, maior a QV no G1 (p 0,006**) e no G2 (p 0,031*).

Discussão:

Os resultados da QA demonstraram piora no pós operatório imediato devido à restrição da dieta e da presença de mais episódios de vômito e regurgitação. A QV apresentou melhora significativa entre o pré e pós-operatório devido ao aumento da autoestima, diminuição de comorbidades e satisfação geral com a saúde. Conclusão: Os resultados evidenciaram melhora nos aspectos avaliados com o passar do tempo de realização da CB, além de correlação positiva entre eles, demonstrando que a atuação pontual sobre a alimentação repercute de forma positiva na qualidade de vida como um todo do indivíduo.

O-329

QUALITY OF LIFE IN GASTROESOPHAGEAL REFLUX DISEASE TWO YEARS AFTER SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Introduction:

Sleeve gastrectomy is, at this moment, the most performed bariatric surgery worldwide. One of the most frequent long-term complications of this surgery is gastroesophageal reflux disease (GERD).

Objective:

To describe the quality of life in GERD disease after sleeve gastrectomy.

Methods:

A descriptive study was carried out in which all patients who underwent a sleeve gastrectomy between 2016 and 2019 at Hospital Militar de Santiago were included. Medical charts were reviewed, and a telephone survey was conducted to obtain information on the quality of life of GERD (GERD-HRQL). Each item is scored from 0 (best score) to 5 (worst score). The total GERD-HRQL score is simply the sum of all the 10 items (best possible score: 0, worst possible score: 50).

Results:

225 patients with a mean age of 41.1 years ± 11.4 were analyzed. The most frequent comorbidities were Insulin resistance (172%), Fatty liver (52%), Dyslipidemia (40%), HBP (36%), OSAHS (14%). The average preoperative weight and BMI were 107.3 ± 15.4 kg and 38.6±3.7 Kg / m2 respectively and 74.45±11.9 kg and 27.9±3.8 Kg / m2 after two years of follow up. The GERD quality of life survey presented an average score of 4.03±6.6 points at 2 years of follow-up.

Conclusions:

Sleeve gastrectomy manages to be an effective weight loss surgery and the quality of life of patients is not severe affected because of GERD. Further studies may be conducted to identified risk factors of GERD.

O-330

QUANTITATIVE ASSESSMENT OF FOOD PATHWAY AFTER LAPAROSCOPIC SINGLE ANASTOMOSIS SLEEVE ILEAL BYPASS: A NOVEL TECHNIQUE

Type 2 diabetes and metabolic surgery

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Background:

Laparoscopic single anastomosis sleeve ileal bypass (SASI) is a new emerging bariatric and metabolic operation which is still investigational. Currently a growing number of bariatric surgeons start to practice SASI bypass. No previous study on the amount or percentage of food passage in the normal duodenal pathway or the new ileal channel.

Objectives:

The objectives of this study are to assess the amount food pass to the duodenal or the ileal channel

Methods:

A prospective randomized study which was held in Menoufia university hospital, other private hospitals and centers in Egypt. One hundred patients were included in this study. Each patient was allowed to swallow multiple boluses of soft blend of food; a total amount of 80 ml. The food blend was mixed with 50 very small radiopaque micro balls (about 2mm) then series of radiological images were taken in different planes over 4 hours to assess the number of micro balls which have passes in either the ileal or the duodenal pathway. The number of balls in each passage reflects the food amount in ileal and the duodenal passages.

Results:

The mean number of balls in the duodenal pathway was (15 +-8) while the mean number of balls in the ileal pathway was (35 +- 9). $P<0.001$

Conclusion:

The amount passed through the ileal passage is much higher than the amount passed through the duodenum passage which reflect a reasonable bypass of food in SASI operation which could confirm the hope of higher weight loss than sleeve gastrectomy and a more confirmed efficacy of its metabolic effect.

O-331

RANDOMIZED CONTROLLED TRIAL OF ADJUNCTIVE SCALABLE PSYCHOLOGICAL TREATMENTS FOR LOSS-OF-CONTROL EATING FOLLOWING BARIATRIC SURGERY: 24-MONTH FOLLOW-UP

Adjunctive interventions to enhance weight loss and prevent weight regain

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Background:

Loss-of-control (LOC)-eating postoperatively predicts suboptimal longer-term outcomes following bariatric surgery.

Objective:

This study examined longer-term effects through 24-month follow-ups after completing treatments in a randomized controlled trial testing adjunctive guided-self-help treatments (cognitive-behavioral therapy [gshCBT] and behavioral weight-loss [gshBWL]) and control (CON) delivered postoperatively for reducing LOC-eating.

Methods:

140 patients with LOC-eating six months after bariatric surgery were randomized (5:5:2 ratio) to 3-months of gshCBT (N=56), gshBWL (N=60), or CON (N=24) delivered by trained allied-health clinicians. Independent assessments were performed throughout/after treatments and 6-, 12-, 18-, and 24-month follow-ups. Overall, 83% of patients were assessed at 24-month follow-up.

Results:

Intent-to-treat analyses (N=140) comparing treatments (gshCBT vs gshBWL vs CON) in LOC-eating abstinence rates at post treatment (30%, 27%, 38%), 12-month follow-up (34%, 32%, 42%), and 24-month follow-up (45%, 32%, 38%) revealed no significant differences. Secondary completer analyses revealed higher abstinence rates but converged with the intent-to-treat findings of no significant differences between treatments. Mixed-models revealed significantly reduced LOC-eating frequency through post-treatment but no significant changes or differences between treatments during follow-ups. Weight reduced significantly through post-treatment but increased during follow-ups with no differences between treatments. Post-treatment LOC-eating frequency and weight were significantly associated with levels at 24-month follow-ups.

Conclusions:

12-week adjunctive scalable guided-self-help treatments did not differ from each other, had reduced LOC-eating and weight at post-treatment, and had increased weight - but not LOC-eating - from post-treatment to 24-month follow-up. More intensive treatments are needed postoperatively for patient with LOC-eating.

O-332

RE-MANGA GÁSTRICA Y REPARACIÓN DE HERNIA HIATAL EN PACIENTES CON REFLUJO GASTROESOFÁGICO SINTOMÁTICO Y GANANCIA DE PESO POSTERIOR A MANGA GÁSTRICA PRIMARIA

Cirugía de hernia en el paciente bariátrico

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Introducción:

La manga gástrica laparoscópica (SG) se ha establecido como el procedimiento bariátrico más comunmente utilizado. Se ha descrito una relación importante entre la SG y el reflujo gastroesofágico (ERGE). Objetivo. Reportar los resultados de la re-manga gástrica (re-SG) para el control del ERGE postoperatorio y reparación de la dilatación del pouch.

Métodos:

Una evaluación retrospectiva de nuestras bases de datos en tres diferentes centros ubicados en México y Guatemala, identificó a 15 pacientes que se sometieron a cirugía de re-SG con reparación de hernia hiatal en el periodo que abarca de junio del 2017 a octubre del 2020. Todos los pacientes habían presentado síntomas persistentes de ERGE que respondían a inhibidores de la bomba de protones, durante más de 1 año posterior a la SG. Se citó a los pacientes para evaluar la presencia de síntomas de ERGE posterior a la re-SG cada mes durante 6 meses.

Resultados:

Se les realizó endoscopía preoperatoria a todos los pacientes donde se evidenció hernia hiatal con deslizamiento de la transcision escamocolumnar hacia arriba de los pilares diafragmáticos. De los pacientes, 9 (60%) son mujeres. El IMC promedio antes de la re-SG era de 31.7 ± 3.1 kg/m2. 2 (13.3%) de los pacientes fueron intervenidos por colecistitis. Se realizó re-SG en todos los pacientes con la técnica estandarizada por 3 cirujanos que incluye descenso del esófago, cierre de los pilares diafragmáticos, reestructuración de la manga con sonda de 38 French y fijación del epiplón al tercio superior y medio de la curvatura mayor de estómago. Se observó remisión de los síntomas de ERGE en todos los pacientes y un IMC de 25.54 ± 1.43 kg/m2 en el postoperatorio a 6 meses.

Conclusión:

La re-SG es una buena opción terapéutica para aliviar el ERGE después de la SG primaria y es efectiva para corregir la ganancia de peso y mejorar comorbilidades en el seguimiento a mediano plazo.

O-333
REMISSION OF TYPE 2 DIABETES MELLITUS AFTER DUODENAL SWITCH: THE CONTRIBUTION OF THE COMMON CHANNEL LENGTH

Type 2 diabetes and metabolic surgery

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Introduction:

The incidence of Type II Diabetes Mellitus (DM) has increased in parallel with the increase in obesity. Bariatric surgery remains the best treatment for DM with biliary diversion procedures, such as the duodenal switch (DS), producing the greatest and most durable remission. Which specific component of the operation contributes to the remission is incompletely understood.

Objectives:

To evaluate the role of the common channel length in DS on remission of DM when stratifying patients based on the presence (INS) or absence (No-INS) of preoperative insulin use.

Methods:

We retrospectively reviewed 354 consecutive patients with DM undergoing DS with one of three different common channel (CC) lengths (100 cm, 150 cm, and 200 cm), each with a fixed 300 cm alimentary limb (AL). Patients were stratified by INS or No-INS preoperatively. Preoperative demographic data was collected, including hemoglobin A1c (HbA1c), number and type of diabetes medications, DiaRem score, and body mass index. Postoperatively, data was collected at one year and at the last available follow-up. Postoperative data included, HbA1c, use of diabetic medication, time of last follow-up, and weight. The average HbA1c was calculated for each CC length and compared with student's 2-tailed T-tests for significance. The proportion of patients able to achieve HbA1c <6.5% or <6%, off diabetic medications, was assessed with the Chi-square test.

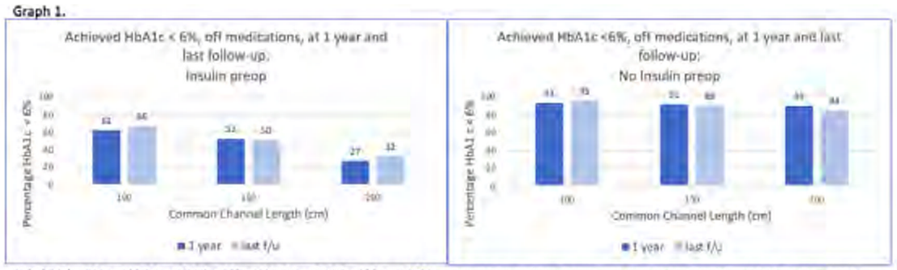
Results:

All patients had at least 1 year of follow-up with a range of 1-7 years and average of 3 years follow-up. The No-INS group had a similar average HbA1c at last follow-up for each of the CC lengths. However, the INS group had lower average HbA1c with shorter CC lengths (100 cm=5.4%, 150 cm=6%, 200 cm=6.4%, p<0.05). Additionally, the ability of patients to achieve a HbA1c <6% off medications was similar for all CC lengths for the No-INS group. Shorter CC lengths resulted in a greater proportion of patients off diabetic medications achieving HbA1c <6% in the INS group (graph 1). Improvements in HbA1c were independent of weight loss and average DiaRem scores were similar between CC lengths. The durability of the remission in the INS group is demonstrated over 5 years (graph 2).

Conclusions:

When the AL is fixed, shortening CC lengths results in improved glycemic control and remission of DM in patients with the need for insulin preoperatively. Milder forms of DM are treated well with any of the CC lengths.

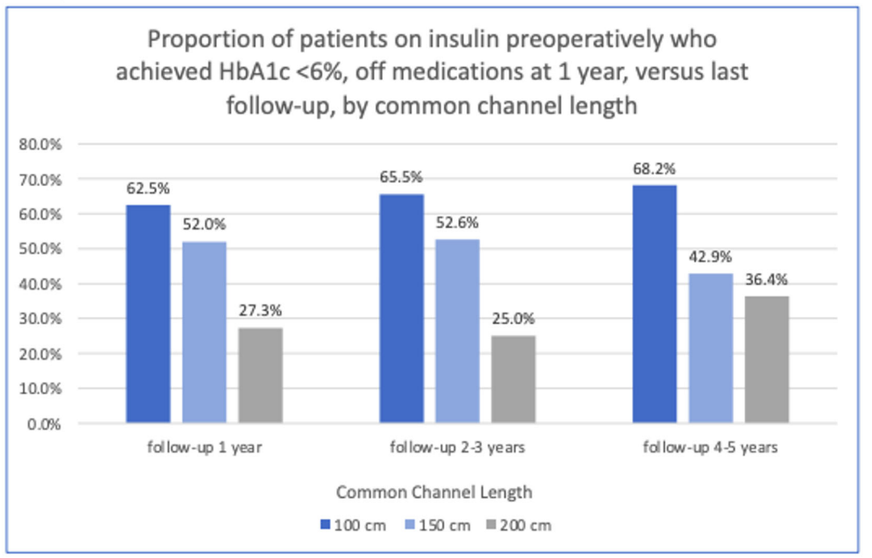
Graph 1.



A. P<0.01 for 100 vs 200 CC, p=0.08 for 150 vs 200 CC, p=0.20 for 100 vs 150 CC

B. P=0.07 for 100 vs 200 CC, p=0.6 for 150 vs 200 CC, p=0.25 for 100 vs 150 CC

Graph 2.



p=Not significant

O-334

REPERCUSIONES DE LA CUARENTENA POR COVID-19 EN UN GRUPO DE OBESOS DEL PROGRAMA DE OBESIDAD Y CIRUGIA BARIATRICA (POCB)

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Introduccións:

En Uruguay con el primer caso COVID-19 se implementaron medidas de aislamiento para disminuir los contagios. Desde el 13/3 al 14/4/20 se instrumentó una cuarentena voluntaria y se flexibilizó progresivamente manteniendo medidas de distanciamiento social. Los obesos tienen mayor riesgo de enfermedad grave y mortalidad. Estudios en niños mostraron aumento de peso con el cierre de escuelas y el aislamiento domiciliario durante la pandemia. Esto parecería ser reproducible en adultos sobre todo en el sobrepeso y obesidad.

Objetivos:

Del estudio fue describir el impacto de las medidas de confinamiento durante la pandemia COVID-19-19 sobre el peso y el estilo de vida en un grupo de obesos del POCB. Se realizó un estudio descriptivo, observacional y transversal en una cohorte de pacientes de POCB de un hospital público de Montevideo Uruguay desde el 13/3 al 1/7/2020. Se realizó una encuesta telefónica opción múltiple sobre la evolución ponderal, hábitos nutricionales, actividad física, salud mental y patologías médicas asociadas. Estudio aprobado por el comité de ética del Hospital.

Methods:

Se incluyó 178 participantes, 88.8% mujeres y 11.2% hombres, con edad promedio de 46.2 ± 1,0 años. 59,0 % en valoración preoperatoria y 41% operados: 50.7% manga gástrica y 49.3% bypass gástrico. 41.2% presentaban HTA; 38.6% SAHS; 27.7% DM; 23.7% dislipemia; 5.6% tabaquismo. El 73% manifestó cumplir con el confinamiento; 26.4% trabajar con distanciamiento social y el 0.6% no cumplió ninguna medida. Los pacientes operados tuvieron una disminución de 2.1 ± 3.8 Kg/m2 del IMC (p<0.0001), no hubo cambios en los pacientes en pre operatorio. El 38.4% refirieron sostener los cambios recomendados por el POCB. Durante el confinamiento 67% refirieron alto nivel de ansiedad y un 35% identificaron un aumento del consumo de alimentos predominando los panificados. 58.2% reportaron un aumento vinculado a ansiedad y aburrimiento. El 65% realizaron actividad física durante el periodo y el 53.5% realizó más de 30 minutos diarios. Solo el 24.3% no accedieron a consultas médicas para control de su obesidad y enfermedades asociadas y un 20.5% no lograron mantener el tratamiento farmacológico.

Conclusión:

El confinamiento secundario al COVD19, determinó dificultad en mantener los hábitos promovidos por el POCB. Los pacientes presentaron un alto nivel de ansiedad que repercutió principalmente a nivel nutricional. A pesar de esto los pacientes operados presentaron un descenso de peso significativo.

O-335

RESTORATIVE OBESITY SURGERY, ENDOLUMINAL (ROSE) FOR TREATMENT OF WEIGHT REGAIN AFTER SURGICAL WEIGHT LOSS PROCEDURE: PRELIMINARY REPORT AT 12-MONTHS FOLLOW-UP

Management of weight regain after surgery

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Background:

Weight regain after bariatric surgery is one of the biggest challenges for surgeons and endoscopist. Endoscopic procedures offer a potential minimal invasive solution for this kind of patients. Restorative obesity surgery, endoluminal (ROSE) is a procedure intended to help patients reverse weight regain by multiple full thickness plications, using the Incisionless Operating Platform (IOP, USGI, Medical, United States that restores the pouch and stoma size, near similar to original postoperative proportions.

Objectives:

This study assesses the efficacy of the uses of the IOP platform as an option to treat patients with weight regain after sleeve and gastric by-pass identifying the percentage of weight lost at 12 months of follow-up.

Methods:

A retrospective review of prospectively collected data was made. 17 Patients were included for study. This technique uses 2 different graspers, G-Prox, 16 mm one for the By-Pass and the 33 mm for the sleeve. Patients were followed for 12 months after procedure. All procedures were performed by two operators.

Results:

The median age was 45,53 years ± 10.47 years and 55% were female. The percentage of excess weight loss (EWL%) was 65,49 (95% CI, 46.14-74.12, p < 0.0001) and total body weight loss (%TBWL) was 21,80% (95% CI, 15.95-34.19, p < 0.0001) at 12 months of follow-up.

Conclusions:

Our preliminary results suggest that ROSE is effective in reduce weight at 12-months of follow-up, therefore, it could be considered as a therapeutic alternative for weight regain in patients with bariatric surgery. More long-term studies are needed.

Table 1. Clinical characteristics of the population

	n = 17
Age (years)	45.53
Weight (kg)	96.47
BMI	35.45
EWL (kg)	36.86

BMI: Body mass index. EWL: excess weight loss

Table 2. Weight loss. Follow-up at 12 months

	3m	6 m	12 m
%EWL	29.60%	50.59%	65.49%
%TBWL	10.23%	16.59%	21.80%

%EWL: percentages of excess weight loss. %TBWL: percentages total body weight loss

O-336

REVERSAL TO NORMAL ANATOMY AFTER ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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Introduction:

Laparoscopic Roux-en-Y gastric bypass (RYGB) is an effective treatment of obesity. However, a small group of patients suffer from severe long-term complications and eventually require reversal procedures.

Objectives:

To describe and analyse indications and outcomes for patients undergoing reversal to normal anatomy after Roux-en-Y gastric bypass.

Methods:

A retrospective single center cohort study of patients who underwent reversal to normal anatomy after Roux-en-Y gastric bypass. Data was collected from the Scandinavian Obesity Surgery Registry (SOReg) and by review of medical charts.

Results:

Between April 2014 and February 2021, 25 patients underwent reversal to normal anatomy. Twenty-three (92%) were female and mean age was 41.8 ± 9.9 years. The indications for reversal were: abdominal pain (n=16), severe hypoglycemia (n=5), malnutrition (n=8), micronutrient deficiency (n=2) and psychological reasons (n=3). Mean time from RYGB to reversal was 71 months (range 8-123). Twenty-two (88%) were performed laparoscopically and 3 with open surgery. Mean hospital stay was 4.5 days (range 1-28 days). The mean BMI before the reversal was 24.9 kg/m² (range 16-35) and at one year follow-up 33.9 kg/m² (range 25.5-59).

Postoperative complications occurred within six weeks in 9 patients (36%), including infection (n=4), ileus (n=3) and bleeding (n=2). Six patients (24%) needed a reoperation within 30 days due to bleeding (n=2), ileus (n=2), suspected superior mesenteric artery-syndrome, and dilatation of the pylorus. There was no mortality.

Following reversal, all patients with hypoglycemia, micronutrient deficiency and psychological indications had complete resolution of symptoms. Seven patients (28%) had continued abdominal pain after reversal and two patients remaining malnutrition.

Conclusion:

The majority of patients benefited from reversal to normal anatomy after gastric bypass. However, abdominal pain remained in 28% of patients and there was a significant weight gain. One third of patients experienced early postoperative complications.

O-337

REVIEW OF OUR EXPERIENCE IN BARIATRIC SURGERY ASSISTED BY ROBOT, OBESITY SURGERY CLINIC AND METABOLIC DISEASES OF THE NATIONAL MEDICAL CENTER NOVEMBER 20, ISSSTE, HOSPITAL OF THIRD-LEVEL IN MEXICO CITY

Robotic bariatric surgery

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Introduction:

Revisional surgery is rapidly growing within the field of bariatric surgery. The use of robotic assisted surgery, considered controversial by many, may offer advantages in revisional bariatric surgery.

Objective:

To evaluate the safety and efficacy of bariatric surgery (BS) in patients with obesity by robotic bariatric surgery

Methods:

We conducted a retrospective, comparative study, nonrandomized of all patients undergoing Hybrid Gastric Bypass (HGB) and Revisional surgery robot-assisted (RSRA) in the Center National Medical November 20 between 2015-2018. We analyzed age, weight, height, BMI, comorbidities, docking, console time, total operating time, complications and hospital stay.

Results:

Between 2015 and 2019, 21 patients undergoing RSRA and 16 patients undergoing HGB, the %EWL in the group treated with RSRA ranged between 7.35%- 67.21%, in HGB, %EWL between 41.14% and 72.41% weight loss at 1 year in RSRA ranged from 12 to 95 kg, In the treated group was between 16 HGB kg and 147 kg, time Docking in RSRA was 7 min and HBG was 7.5 min, time console RSRA was 86.38 min and HGB was 66.50, total time in RSRA was 134.29 min and HGB was 74.13. Hospital stay was 3.57 days in RSRA and 3.44 HGB, in the present study only presented one complication.

Conclusions:

The HGB and RSRA is a developing technique to be perfected, it appears effective and safe, time docking, console and total time is improving to overcoming the learning curve coming to be smaller with the passage of time.

O-338

REVIEW OF THE EXISTING ENDOSCOPIC, SURGICAL AND RADIOLOGICAL TECHNIQUES OF TREATING CHOLEDOCHOLITHIASIS IN BARIATRIC ROUX-EN-Y GASTRIC BYPASS PATIENTS AND PROPOSED MANAGEMENT ALGORITHM

Impact of bariatric surgery on other surgical outcomes- Transplant ortho and hernia

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Introduction:

Bariatric patients who have undergone weight loss surgery have an elevated risk of cholelithiasis and choledocholithiasis. The management of common bile duct stones in bariatric Roux-en Y gastric bypass (RYGB) patients can be challenging as a result of altered upper gastro-intestinal anatomy.

Objective:

This study aims to describe the current treatment modalities for choledocholithiasis within this specific patient group while attempting to propose an ideal management algorithm.

Methods:

A thorough search of existing literature was performed for each modality to facilitate discussion.

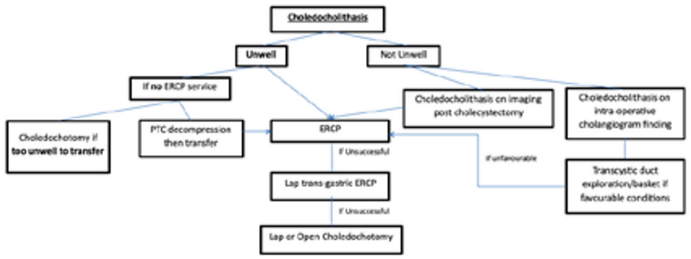
Results:

Choledocholithiasis in RYGB patients can be managed through endoscopic, surgical, percutaneous and hybrid methods. Endoscopic retrograde pancreatic-cholangiography (ERCP) remains a viable option in the hands of experienced operators, especially with the advancements in device-assisted endoscopy like single/ double balloon endoscopes (SBE/ DBE). Current literature suggests reasonably successful cannulation rates for SBE and DBE ranging from 50-70% and 63-83% respectively. The technique of performing laparoscopic transgastric ERCP (L-TGERCP) via the gastric remnant has gained popularity over the last two decades. This hybrid procedure holds success rates ranging from 90-100%, with complication rates ranging from 0-35% within the literature. Variations of this technique utilizing endoscopic ultrasound (i.e. EUS – TGERCP) and percutaneous (perc- TGERCP) means have also been described. Long-standing laparoscopic surgical techniques like transcystic duct exploration (TC-LCBDE) and Trans-choledochal common bile duct exploration (TD-LCBDE) are still useful therapeutic options (i.e. high success rates of 81-100% and 83-96% respectively), particularly in the case of concurrent laparoscopic cholecystectomy. The role of percutaneous choledochography (PTC) remains limited although it can help with rapid bile duct decompression in sick patients.

We propose an escalatory approach to management with careful consideration of available centre specific resources (refer to Fig. 1). In appropriate patients and centres, ERCP should still be attempted first prior to considering surgical options like LTGERCP and TD-LCBDE.

Conclusion:

The management of choledocholithiasis within this patient group can be challenging which often requires a multi-disciplinary approach. If feasible, treatment pathways should progress from least to more invasive options as required.



O-339

REVISION OF ENDOSCOPIC SLEEVE GASTROPLASTY. A SYSTEMIC REVIEW ON PHYSICIANS' DECISION-MAKING

Endoscopic and percutaneous interventional procedures

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Introduction:

Failure to attain weight loss goals following endoscopic sleeve gastroplasty (ESG) is rare. No consensus exists regarding the next step of management in this situation. Failure to attain the weight loss goals has 3 types: weigh loss failure, weigh loss plateau, and weight regain.

Objectives:

The aim of this study is to review the basis underlying physicians' decision-making regarding the management of patients who failed to attain the weight loss goals following ESG.

Methods:

A systematic literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases using terms "endoscopic sleeve gastroplasty", "redo", and "revision" to identify pertinent articles. The initial search yielded 438 studies which were manually reviewed. Twenty articles met the inclusion criteria with a total of 119 cases reported.

Results:

In patients who underwent revisional bariatric surgery following primary-ESG (P-ESG), the indication was weight loss failure in 89.65% of patients. Average initial BMI at P-ESG was 37.73 kg/m2, average BMI at revisional bariatric surgery was 37.26 kg/m2. In contrast, in patients who underwent redo-ESG following P-ESG, the indication was weight regain and weight loss plateau in 57.14% and 25.71% of patients respectively. Average initial BMI at P-ESG was 40.01 kg/m2, average BMI at redo-ESG was 34.22 kg/m2. Revisional bariatric surgery was laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass in 93.1% and 6.89% of patients respectively. Revisional bariatric surgery was successful in 96.55% of patients. During redo-ESG, complete and incomplete dehiscence of the previous P-ESG sutures was observed in 64% and 36% of patients respectively. The mean number of sutures added at redo-ESG were 3.5 sutures (range 2-6). Redo-ESG was successful in 94.44% of patients.

Conclusion:

Physicians tend to revise ESG cases according to the failure type. If ESG didn't work from the first place (weight loss failure), they would recommend revisional bariatric surgery. However, if significant weight loss was achieved but the loss was plateaued or was regained, then they would recommend redo-ESG, attributing the weight loss plateau or weight regain to sutures' dehiscence which can be successfully managed by simply endoscopic re-suturing (redo-ESG). Further studies are needed to establish a consensus for management of ESG patients who failed to attain the weight loss goals.

O-340

REVISION OF SINGLE ANASTOMOSIS DUODENAL ILEAL BYPASS FOR MALNUTRITION

Duodenal switch procedures, including single-anastomosis DS

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Introduction:

Pancreatic pseudocyst account for two-thirds of all pancreatic cystic lesions, developing as a complication in patients with a history of acute or chronic pancreatitis. Obesity is a chronic disease, and bariatric surgery has been undoubtedly established as the most effective procedure for inducing sustained long-term weight loss among obese patients.

Methods:

Female patient with a diagnosis of morbid obesity with an initial weight of 126 kg, who had a history of acute pancreatitis of biliary origin in whom a pancreatic pseudocyst was found in a CT scan. A surgical procedure consisting of cholecystectomy, one anastomosis gastric bypass (OAGB) and cystic-gastric anastomosis with the native stomach was performed. One year after surgery, the patient was asymptomatic, with a nadir weight of 72 kg, an excess weight loss of 80% and no tomographic evidence of pancreatic pseudocyst recurrence.

Results:

A retrospective analysis, which enrolled 7,060 patients hospitalized for pancreatic pseudocyst, revealed that cyst drainage and cystic-gastric anastomosis by laparoscopic approach are associated with fewer complications in the short term than the open approach. These findings can be of great value in the context of a bariatric surgery as an alternative for the resolution of this complication combined with the benefit of sustained weight loss and long-term resolution of other concomitant comorbidities. Gastric Anastomosis Bypass (OAGB) is a procedure that has shown good results in terms of weight loss and long-term metabolic improvement.

Conclusion:

A laparoscopic cysto-gastric anastomosis in combination with a one anastomosis gastric bypass is technically feasible in a patient with a pancreatic pseudocyst who is also morbidly obese.

Keywords: Pancreatic pseudocyst, bariatric surgery, obesity, pancreatitis, cysto-gastric anastomosis.

O-341

REVISIONAL BARIATRIC SURGERY: 11 YEAR EXPERIENCE OF A BARIATRIC DEPARTMENT IN GREECE

Revisional surgery

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Background:

The exponential increase in bariatric and metabolic surgery over the last two decades has led to a concurrent rise in bariatric reoperations, owing to suboptimal bariatric outcomes (insufficient weight loss–IWL, weight regain–WR), complications of index operations or alterations of the anatomy and physiology of the gastrointestinal tract.

Methods:

This is a retrospective analysis of prospectively collected data on demographics, comorbidities, time elapsed after index operation, and indication for reoperation.

Results:

Over the period May 2010–May 2021, 1,733 bariatric and metabolic operations were performed in our Department. There were 40 patients (23 females, 57.5%) with a mean age of 40.2 years (21-58) and a mean BMI of 43.7 (24.2-69.4) who underwent at least 1 reoperation. Index operation had been performed elsewhere in 33 cases (82.5%) and mean interval between index and final redo operation was 7.54 years (6 months-18 years). Thirty-two patients underwent one reoperation (80%), 7 patients underwent two (17.5%), and 1 patient underwent three (2.5%) reoperations. Index procedures included adjustable gastric banding (27 cases, 67.5%), sleeve gastrectomy (LSG–6 cases, 15%), greater curvature plication (5 cases, 12.5%), Roux-en-Y gastric bypass (RYGB) and vertical banded gastroplasty (1 case each, 2.5%). Indications for reoperation included WR (21 cases, 52.5%); IWL (6 cases, 15%); leak or band slippage (3 cases each, 7.5%); nutritional deficiencies or port infection (2 cases each, 5%); and persistent vomiting, cardiac arrhythmia due to fundus dilatation or gastric stricture (1 case each, 2.5%). The reoperations that we performed were simple band removal (6 cases, 15%); band removal and LSG (13 cases, 32.5%; 11 single-step operations, two 2-step procedures); band removal and RYGB/OAGB (6 cases, 15%; 3 single-step operations, three 2-step procedures); conversion to gastric bypass (classic or one-anastomosis) and RYGB undo or redo (3 cases each, 7.5%); total gastrectomy (2 cases, 5%) and other miscellaneous procedures (7 cases, 17.5%).

Conclusion:

In our series, the most common index operation was gastric banding (67.5%), and the most common indication for reoperation was weight regain (52.5%). Band removal and conversion to either LSG or bypass were the most common reoperations. The fact that 82.5% of cases had been operated in another institution underlines the issue of loss to follow-up in the bariatric population.

O-342

REVISIONAL ENDOSCOPIC SLEEVE GASTROPLASTY (ESG) OF LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING – A CASE REPORT

Endoscopic and percutaneous interventional procedures

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Background:

ESG is an endoluminal, minimally invasive, safe and effective procedure that involves remodeling of the greater curvature using the Apollo OverStitch device in an effort to reduce gastric capacity and delay gastric emptying. Since obesity is a chronic condition, it is necessary to provide continuous treatment to those patients with weight regain after other surgical or endoscopic procedures and ESG has recently become an option to this purpose.

Objective:

To present the case of revisional ESG after unsuccessful treatment for obesity with LAGB.

Methods:

27-year-old man, hypertensive, type 2 diabetic, with grade III obesity, Body Mass Index (BMI) of 46, 6 Kg/m2, submitted to LAGB five years ago. He had unsuccessful treatment with only 5% total weight loss (%TWL) after LAGB. Attempted to Bariatric Endoscopy consultation asking for obesity treatment, but refused bariatric irreversible procedures using staplers and/or creating anastomoses. Then, ESG was indicated. LAGB removal was performed under laparoscopic visualization, followed by ESG at the same anesthetic procedure. Gastric tubulization was achieved by the application of four endo-suture stitches using the Apollo OverStitch device. There were no intraoperative complications or technical difficulties and the patient was discharged on the first postoperative day.

Results:

At 30 days follow-up, the patient was completely asymptomatic and able to continue multidisciplinary team surveillance. He had lost 20Kg (12%TWL) and his BMI was 40,8Kg/m2.

Conclusion:

ESG seems to be a safe, reversible, efficient and minimally invasive technique that may be used to provide continuous obesity treatment to patients with no indication or no acceptance of Bariatric irreversible surgical techniques.

O-343

RISK OF COVID-19 COMPLICATIONS IN EARLY PERIOD POST BARIATRIC SURGERY

Perioperative management

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Introduction:

COVID-19 infection is an infectious respiratory disease caused by the 2019 novel coronavirus. There are no well-known information about this disease and outcomes in obese and post bariatric patients. Moreover, little is known about its effect in the early postoperative period following bariatric surgery.

Objective:

As COVID-19 pandemic is still ongoing, the need for continuing elective bariatric surgery with risks of postoperative infection is a matter of debate. We tried to find if early postoperative COVID-19 infection increases patient risks of severity, complications or mortality.

Methods:

We prospectively followed up patients who developed a positive COVID-19 infection in the early postoperative period (First 30 days after surgery) in our unit.

Results:

Five of our patients developed positive COVID-19 infection after bariatric surgery confirmed by PCR. Three of them had One-Anastomosis-gastric Bypass, one had Sleeve Gastrectomy and the last had Roux-En-Y gastric bypass. All these patients developed a mild infection with mild symptoms and required only supportive measures with home isolation. None of them needed any hospital or ICU admission, no post-COVID-19 complications were noted and no mortality was detected.

Conclusion:

COVID-19 infection in the early postoperative period following bariatric surgery didn't seem to increase complications or mortality in our series. Further studies with bigger sample numbers could be more informative and conclusive.

O-344

ROBOTIC DUODENOJEJUNAL BYPASS WITH SLEEVE GASTRECTOMY IMPROVES GLYCEMIC CONTROL IN PATIENTS NON-SEVERELY OBESE PATIENTS WITH TYPE 2 DIABETES MELLITUS

Type 2 diabetes and metabolic surgery

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Introduction:

Obesity and type 2 diabetes mellitus (T2DM) are two of the most common metabolic disorders with increasing incidence and prevalence. Patients with obesity and T2DM can achieve sustainable weight loss and diabetes remission after metabolic surgery. The aim of this study was to present the effect of robotic duodenojejunal bypass with sleeve gastrectomy (DJB-SG) among patients with a Body Mass Index (BMI) between 30-35 kg/m2 and poorly controlled T2DM.

Methods:

From January 2019 to June 2020, 73 patients underwent robotic SG-DJB. After sleeve gastrectomy, jejunum was transected at 100 cm distal to ligament of Treitz. Then duodenojejunostomy was created using a hand-sewn double-layer technique. Jejuno-jejunostomy was done using a linear stapler at 150 cm distal of duodenojejunostomy. The demographic data of patients, operative outcomes and course of T2DM in these patients were defined.

Results:

The mean age of the patients was 47 and M/F sex distribution was 35/38. The mean operation periods was 185 minutes for robotic DJB-SG and the docking process is also included in this period. No anastomotic leak was observed from any of the patients. Oral food intake was started at an average of 1.8 days. The average hospital stay was 2.7 days and the return to normal activity rate was 7.8 days. At 1 year, HbA1c and fasting glucose decreased 9.3±0.6 to 6.8±0.4 ($p<0.05$) and 238±34 mg/dL to 126±9 mg/dL ($p<0.05$).

Conclusions:

Robotic approach is an effective and safe option for patients undergoing SG-DJB. Additionally, SG-DJB for non-severely obese patients with T2DM has strong anti-diabetic effect in the short-term. The long-term results recorded in these patients that we have shown will reveal the success about T2DM remission.

O-345

ROLE OF ROUTINE ABDOMINAL ULTRASOUND BEFORE BARIATRIC SURGERY: REVIEW OF 937 PATIENTS

Perioperative management

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Introduction:

The routine use of preoperative abdominal ultrasound for patients undergoing bariatric surgery is controversial. Despite the fact that some physicians routinely implement it; others still consider it not necessary and not cost effective because it does not have a clear clinical significance in the preoperative preparation of bariatric patients.

Methods:

We reviewed the medical records of all patients who had a preoperative abdominal ultrasound before bariatric surgery June 2014 and December 2016. Patients were divided into 4 groups: Group 0 included patients with normal abdominal ultrasound, Group 1 included abnormalities that did not affect the timing or type of procedure, Group 2 included findings that did not affect the surgical plan but needed postoperative follow up and Group 3 included abnormalities that had a direct impact on the procedure.

Results:

The files of 1120 patients were reviewed. The ultrasound results were not present in 183 files, they were excluded, and the remaining 937 files were included. The mean age of patients was 37+/-12 years, 589 (63%) were females and 348 (37%) were males. The mean BMI was 45.1 +/- 9.8 kg/m2. Ultrasound was normal in 354 (37.7%) of patients and abnormal in 583 (62.3%) of patients.

Conclusion:

Routine abdominal ultrasound does not seem to have an important part in the preoperative preparation of patients planned for bariatric surgery. Further studies could be helpful in further discussing this role and building up clear solid evidence and guidelines that could be approved by international bariatric associations regarding the indication of preoperative abdominal ultrasound before bariatric surgery.

O-346

ROUTINE INTRA-OPERATIVE ESOPHAGOGASTRODUODENOSCOPY IN 1727 PATIENTS

The recommendation and role of endoscopy before bariatric surgery

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Background:

Routine esophagogastroduodenoscopy (EGD) before bariatric surgery remains controversial.

Objectives:

This study was undertaken to determine the feasibility, safety, and effectiveness of routine intraoperative esophagogastroduodenoscopy (EGD) before bariatric surgery, the incidence of pathological EGD findings in patients undergoing bariatric surgery, the incidence of altered surgical plans because of the EGD findings, and to correlate patient symptoms with the EGD findings.

Methods:

This is a Prospective ongoing, interventional study that was started on March 1st, 2018 with this preliminary report covering the cases up to September 30th, 2019. Routine intraoperative pre-bariatric procedure EGD was done and findings recorded. Patients consented for the endoscopy and the possibility of altering the planned operation was discussed with the patient.

Results:

Routine intraoperative EGD was done on 1727 patients. Nine hundred twenty-two (53.4%) were female. Three hundred fifty-one (20.3%) patients had preoperative history of or symptoms of gastroesophageal reflux disease out of which 84(29%) had positive findings on endoscopy. One hundred twenty (6.9%) had esophagitis and only 22(18.3%) had symptoms of gastroesophageal reflux disease (GERD) preoperatively. Two hundred ninety (16.7%) had gastritis, 392(22.3%) had bile in stomach, 105(6.07%) had duodenitis and 50 (2.9%) had a hiatus hernia. Our primary plan of surgery was changed based on endoscopic findings in 47(2.7%) of patients.

Conclusion:

Intraoperative EGD is do-able, cost-effective, safe and convenient for both the patient and surgeon. We found asymptomatic significant upper gastrointestinal (UGI) pathologies that altered the planned procedure in 2.7% of the patients.

O-347

ROUX EN-Y GASTRIC BYPASS VS SINGLE ANASTOMOSIS DUODENOILEAL BYPASS (SADI-S) TO ENHANCE WEIGHT LOSS AFTER SLEEVE GASTRECTOMY: A COMPARATIVE ANALYSIS OF EFFICACY AND SAFETY

SADIs

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Introduction:

The surgical management to enhance weight loss following sleeve gastrectomy (SG) remains controversial. Roux en-y gastric bypass (RYGB) and single anastomosis duodeno-ileal bypass (SADI-S) are two revisional procedures for the management of suboptimal weight loss (SWL), however studies comparing RYGB and SADI-S are scarce.

Objectives:

This study evaluated the short-term results of (RYGB vs SADI-S) for SWL and characterized perioperative outcomes.

Methods:

Patients who underwent revisional surgery to convert SG to (RYGB or SADI-S) to enhance weight loss at three academic medical centers from Abril 2010 to August 2020 were retrospectively reviewed from a prospectively maintained registry. Mixed-effects and polynomial regression models were used to evaluate weight loss evolution and to compensate missing metrics during follow up. Additionally, perioperative outcomes were compared.

Results:

Fifty-eight patients were included in the study (32 RYGB and 26 SADI-S). Forty (22 RYGB and 18 SADI-S) 68.9% were female with a mean age of (46.6 RYGB vs. 38.5 SADI-S years, p=0.13). Mean BMI before SG was (55.3 RYGB vs. 51.4 SADI-S kg/m2, p=.14). At the time of revisions, mean BMI was (44.5 RYGB vs. 44.2 SADI-S kg/m2, p=.87), which corresponded to (17.3 RYGB vs. 13.6 SADI-S, p=.25) %TBWL and (29 RYGB vs. 22.9 SADI-S, p=.20) %EWL. Baseline characteristics were similar. Minimally invasive approach was successfully completed in all cases and the mean operative time was (182.6 RYGB vs. 197.3 SADI-S, p=.35) minutes. There were no intraoperative complications and the mean hospital stay was (3.6 RYGB vs. 2.4 SADI-S, p=.51) days. Postoperative major complications occurred in (3 RYGB vs. 0 SADI-S, p=.10) patients. Based on the mathematical model, at 6-months post-conversion, patients had a mean BMI of (37.0 RYGB vs. 38.2 SADI-S kg/m2, p=.57) and (15.0 RYGB vs. 11.6 SADI-S, p0.0001) %TBWL. At 12-months post-conversion, patients had a mean BMI of (34.8 RYGB vs. 33.1 SADI-S kg/m2, p=.31) and (20.0 RYGB vs. 23.3 SADI-S, p0.0001) %TBWL. There were no mortalities and the mean follow-up period was (23.9 RYGB vs. 5.6 SADI-S, p0.0001) months.

Conclusions:

This multi-center experience, representing the first study evaluating RYGB vs. SADI-S for SWL, suggests that both are effective and safe. The short-term outcomes are comparable however, the %TBWL after 12 months was significantly higher with SADI-S. Studies with longer follow up are needed to validate this data.

O-348

ROUX-EN-Y GASTRIC BYPASS WITH A LONG COMPARED TO A SHORT BILIOPANCREATIC LIMB LEADS TO BETTER WEIGHT LOSS AND GLYCEMIC CONTROL IN OBESE MICE

Basic science and research in bariatric surgery

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Background:

Roux-en-Y gastric bypass (RYGB) results in long-term weight loss and reduced obesity-related comorbidities. However, the impact of the lengths of the biliopancreatic limb (BPL), the alimentary limb (AL) and the common channel (CC) on weight loss and glucose metabolism is not well understood.

Methods:

Six-weeks old male C57BL/6J mice fed a high fat diet (HFD) underwent bariatric surgery with a defined BPL length: RYGB with a very-long BPL (35% of total bowel length [TBL]), long BPL (25% of TBL), short BPL (15 % of TBL), and sham surgery. The AL length was adjusted according to the BPL length to achieve the same CC length. Glycemia was assessed by intraperitoneal glucose tolerance test.

Results:

Mice undergoing a RYGB with a very-long BPL showed excessive weight loss and mortality. The total weight loss was significantly higher in mice with long BPL compared to mice with a short BPL. In addition, mice with a long BPL showed significantly improved glucose tolerance 14 days postoperatively, however, on postoperative day 35 the improvement in glucose tolerance was less pronounced.

Conclusions:

A longer BPL leads to enhanced weight loss and improved glucose tolerance. However, the beneficial effect on glycemia seems to decrease over time. These findings could potentially be translated to humans by adjusting the BPL length according to the body weight and obesity-related comorbidities.

O-349

ROUX-EN-Y GASTRIC BYPASS WITH ANISOPERISTALTIC ANASTOMOSIS OF THE POUCH-JEJUNOSTOMIE

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Laparoscopic Roux-en-Y gastric bypass (LRGBP) is gold standard in bariatric surgery.

Objectives:

With increasing demand of an operation, the risk of technical complications may also increase. We present you 3 own cases with early or late intraoperative or postoperative detection of anisoperistaltic Pouch-Jejunostomie (PJ).

Methods:

In our institution within 2 years 3 different surgeons had the same complication. The surgeries were recorded so we made 3 short videos.

1) 49y, male, BMI 38,5 kg/m². Received a LRGBP (biliopancreatic limb (BPL) 50cm; alimentary limb (AL) 150cm). After performing the PJ, the surgeon detected it was twisted immediately, so ist was resected and redone. Patient had a normal upper gastrointestinal series (US) at day 1, a normal course and could be discharged at day 5.

2) 61y, male, BMI 47 kg/m². Received a LRGBP (BPL 100cm; AL 150cm). After the PJ and JJ were performed, while suturing Petersen's space the surgeon recognized that the PJ was twisted 180°. PJ and JJ had to be resected and redone. The operation time was 320minutes and the patient went to intermediate care station for better surveillance. He developed rhabdomyolysis with acute on chronic renal failure. US at day 1 showed a slightly delayed passage, and the postoperative course was slightly delayed but regular. Renal insufficiency improved completely and the patient was able to be discharged at day 8.

3) 22y, female, BMI 45.8 kg/m². Received a LRGBP (BPL 180cm; AL 100cm, as part of a study). Normal surgery and normal US day 1, first normal course. Day 4 vomiting without nausea, no pain, no fever, no circulatory reaction and normal blood samples. Vomiting persisted and was not related to drinking, eating, or anything else. A computed tomography scan showed only a slight dilatation of the AL. We performed laparoscopic revision at day 9 and found an anisoperistaltic PJ. PJ and JJ had to be redone. After that she stayed 3 days sober, then had normal US, a normal course and could be discharged at day 18.

Results:

The earlier the malposition of the PJ is detected, the easier it`s to correct and the better and shorter seems to be the postoperative course of the patient.

Conclusion:

Technical complications may even happen to very experienced surgeons. Full attention and double checking seems to be necessary also for standardized and frequent surgeries. In case of unexplained vomiting after RYGB, a Roux-en-o configuration should always be considered as well.

O-350

S C-REACTIVE PROTEIN (CRP) A RELIABLE MARKER FOR POSTOPERATIVE COMPLICATIONS IN GASTROINTESTINAL AND COLORECTAL SURGERY?

Basic science and research in bariatric surgery

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Introduction:

It is very essential to be able to predict the complications that can arise after surgical, this is crucial to accelerate the recovery of patients, intervene in the appropriate time, and decrease pain. Different markers of surgical stress have been studied, one of them is C-reactive protein (CRP) measurement during the postoperative period in different gastrointestinal and colorectal procedures [1-3].

Objectives:

It is well known now that the laparoscopic approach has a less stress effect on the human body after surgery than the open approach for the same kind of procedure [4]. Multiple studies examined CRP to check the stress response of the patients after the surgical operations and then study the degree of an inflammatory response postoperatively [5,6]. The higher its value, the higher the probability of systemic inflammatory response syndrome (SIRS). Evaluation of the level of CRP done before surgery and in the postoperative days. If the value of it increased during the postoperative days this will indicate greater inflammatory response and maybe early complications [7,8].

Methods:

There are two main approaches for gastrointestinal and colorectal surgery, which are minimally invasive approach which includes robotic or laparoscopic and open surgery approach. Although multiple studies showed that the laparoscopic approach is more beneficial for the patients and their recovery in comparison with the open approach [9,10], some studies compared the two approaches through observing the postoperative immune response which showed discrepancies in the results [11-14].

Results:

There is many markers that have been studied in the prediction of the immune and inflammatory response postoperatively, among them the most common one is CRP. Most of these studies found that CRP levels postoperatively are lower in the laparoscopic approach if we compare it to open surgery [15-17]. The aim of this mini-review is to verify the reliability of CRP or other markers in the prediction of postoperative complications.

CRP and colorectal cancer surgery McDermott et al in their review agreed that CRP concentrations exceeding 150 mg/L on a postoperative day 3 should alert surgeons to a possible postoperative complication, including anastomotic leak [18].

Conclusions:

With the current postoperative regimes, anastomotic leaks are usually diagnosed by CT scan. The median day of diagnosis varies between postoperative days 8 and 13 [19-21]. A recent review shows that more than 50% of colorectal anastomotic

O-350.1

SAFETY OF BARIATRIC SURGERY BETWEEN COVID-19 FIRST AND SECOND WAVE OF THE PANDEMIC AT AN ACADEMIC CENTER IN CHILE

Endoscopic and percutaneous interventional procedures

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Introduction:

Patients with obesity have an increased risk of severe respiratory complications when infected with the SARS-CoV-2 virus. Due to the current COVID-19 pandemic, concerns about the safety of bariatric surgery have been raised.

Objectives:

To evaluate the safety of undergoing bariatric surgery at an academic center between the first and second pandemic waves.

Methods:

Prospective observational cohort study includes all patients who consecutively underwent primary bariatric surgery from March to December 2020. Before surgery, all patients underwent SARS-CoV-2 RNA detection by quantitative RT-PCR for up to 48 hours. Institutional protocols were adopted for the care of patients from arrival to the preoperative unit, ward, and postoperative recovery. We identified patients with Clavien-Dindo (CD) ≥ III, respiratory complications, patients with hospital readmission, and patients with postoperative infection of SARS-CoV-2.

Results:

A total of 189 patients were included. Median age and BMI were 36 (17-70) years and 37 (35-39) kg/m2, respectively. From the total of patients, 40.2% were women (n=76), 40.7% (n=77) underwent Roux-en-Y Gastric Bypass, and 59.3% (n=112) underwent Sleeve Gastrectomy. All surgeries were performed laparoscopically. The median length of postoperative stay was two (0-5) days. Major complications occurred in three patients (1.6%), two of them requiring a reoperation (gastrojejunal anastomotic stricture, hemoperitoneum), and one patient required endoscopic dilation due to gastrojejunal anastomotic stricture. No mortality was reported. Eight patients (4.2%) were readmitted. Postoperative SARS-CoV-2 infection was detected in two patients (1.1%); one of them was readmitted with mild symptomatic infection, without the requirement of invasive mechanical ventilation.

Conclusion:

The implementation of strict perioperative institutional protocols during the current COVID-19 pandemic allows to safely perform bariatric surgery with a low risk of SARS-CoV-2 contagion.

O-351

SAFETY OF BARIATRIC SURGERY DURING COVID-19 PANDEMIC, IS THERE A NEED TO SCREEN LOW RISK PATIENTS?

Perioperative management

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Background:

There seems to be a consensus in the current published literature on postponing elective, non-urgent surgery on COVID-19 positive patients. However, so far, no recommendations have been published on when and how to start carrying out elective, non-urgent surgery on COVID-19 negative patients after the epidemic peak.

Method:

A retrospective chart review of patients who underwent bariatric surgery between March to June 2020, during the pandemic of COVID-19. The study participants were male and females with a BMI > 30 with a respiratory score of ≤ 3.

Results:

The mean age of the patients was 32.73 ± 7.81 years, and a higher proportion (n=48; 56.5%) of them were males. Only (n=1; 1.1%) of the patient was tested for Covid19 by RT-PCR before surgery and tested negative. Post-surgery, none of the patients developed any complications, and none of them were admitted to the ICU.

Conclusion:

During the COVID-19 pandemic, before considering patients for elective surgery, they should be screened. For patients who are obese or have underlying comorbidities, if on screening their respiratory score is ≤ 3 indicating a low risk of respiratory illness, elective procedures should continue. Strict precautionary measures should be followed, and a limited number of surgeries should be performed.

Keywords: COVID-19, Bariatric surgery , respiratory score, low risk , elective surgery

O-352

SAME-DAY DISCHARGE ROUX-EN-Y GASTRIC BYPASS: A METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM DATABASE ANALYSIS

Enhanced recovery in bariatric surgery

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Background:

Same-day discharge (SDD) after bariatric surgery is gaining popularity. Scarce data is available on the literature regarding the outcomes of SDD after Roux-en-Y gastric bypass (RYGB)

Objective:

We aimed to analyze the postoperative outcomes of SDD RYGB.

Methods:

We performed a retrospective analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database from 2015 to 2020. Patients who underwent SDD RYGB were included in the analysis. Patients who died on the same day of the operation and were not readmitted were excluded. Primary outcomes of interest were 30-day morbidity, readmission, reoperation, and mortality rates.

Results:

A total of 276,448 RYGB were performed during the study period; 3,264 (1.2%) patients underwent SDD. The SDD rate increased significantly from 2015 to 2020 (2015: 0.9% vs. 2020: 2.2%, p<0.001). The mean age was 45.5 (17.4-78.5) years, and 2,704 (82.8%) patients were female. The mean preoperative body mass index was 44.9 ±9 kg/m2. The surgical approach was laparoscopic in 83%, robotic in 11.7%, and other in 5.3%. 15.1% of the cases were revisions or conversions to RYGB. The mean operative time was 114.5 ± 58.2 minutes. 30-day overall morbidity was 7.4%. 30-day readmission, reoperation, intervention, and mortality rates were 5.2%, 1.5%, 1.7%, and 0.03%, respectively.

Conclusion:

Same-day discharge after RYGB seems safe and is becoming more frequent among MBSAQIP centers. The identification of preoperative and intraoperative variables associated with poor postoperative outcomes might help defining safer and more effective same-day discharge protocols.

O-353

SCREENING FOR VITAMIN C DEFICIENCY IN PATIENTS WHO HAVE HAD BARIATRIC SURGERY: WHY AND WHEN?

Pre and post nutritional deficiencies

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Introduction:

Case reports, series and outbreaks of vitamin C deficiency (VCD) and scurvy have been reported worldwide. Because vitamin C (vit C) is involved in many physiological pathways, VCD can compromise the health of patients who have had bariatric surgery (BSP). Since vit C status and implications have not been studied in BSP and symptoms such as fatigue, bruising and bleeding do not point clearly to VCD, overlap with other vitamin deficiencies and disorders may lead to missed diagnosis and prolonged illness in BSP. OBJECTIVES: We investigated patterns of commonly reported lab results in BSP to differentiate BSP with and without VCD.

Methods:

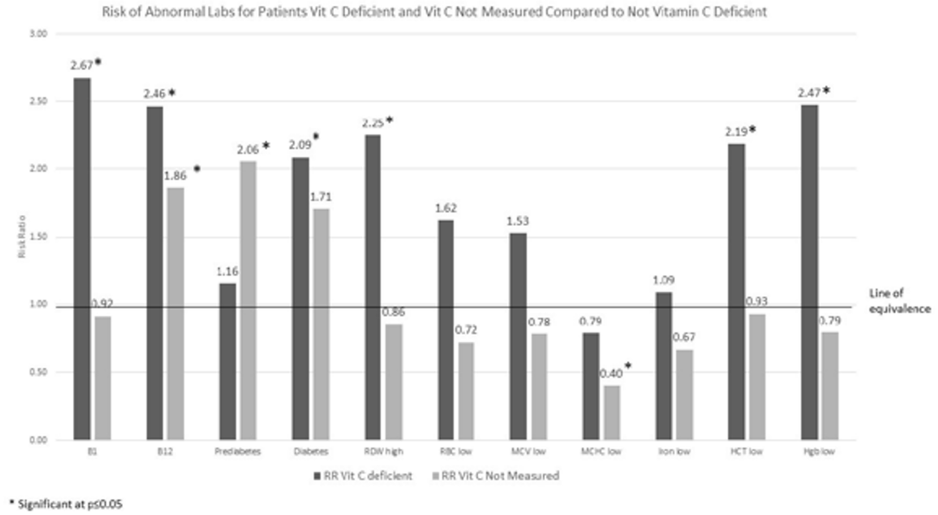
A retrospective chart review was conducted for all BSP seen in a large hospital system in Northeastern United States from Jan 2017 to Jan 2021. Of the n=5946 BSP seen during this period n=235 (4.0%) BSP had vit C labs measured, and 30.2% (n=71) of those had vit C levels <23 micromole/Liter (umol/L) without elevated CRP >5 milligram/L (mg/L). A 1:3 case mix of vit C measured to random sample of patients without a vit C measure was created for comparative purposes (n=920). Multinomial logistic and Poisson regression models were used to evaluate the risk of ever having abnormal lab values (ALV) and if BSP with VCD had higher incident rates of other ALV.

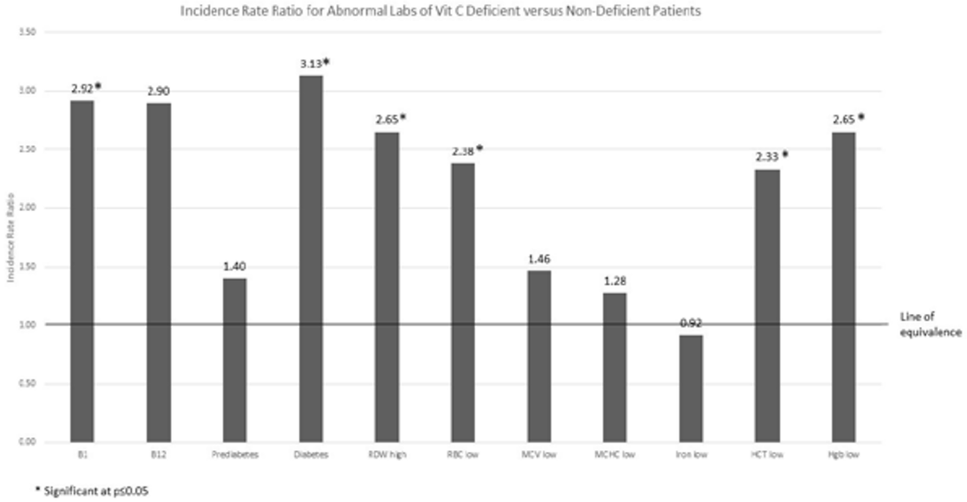
Results:

In the bivariate association between the different labs and vit C status, BSP having VCD at any time was associated with being significantly more likely to be deficient in vitamins B1 (p=0.028) and B12 (p<0.001), having elevated RDW (p<0.001) and low levels of RBC (p=0.005), MCV (p=0.012), Hgb (p<0.001), and HCT (p=0.002). BSP with VCD were also more likely to have diabetes (p=0.05) (Fig 1) BSP with no vit C measures for comparison. FIG 1. Risk of Abnormal Labs for Patients Vitamin C Deficient and Not Measured Compared to Not Vitamin C Deficient We also examined vit C status to determine whether having VCD was associated with persistent deficiencies and ALV (Fig 2). The presence of VCD in BSP was associated with increased incidence of B1 deficiency, diabetes and elevated RDW (all p=0.001), and low levels of RBC, HCT and Hgb (all p<0.006). FIG 2. Incidence Rate Ratios of Patients with VCD Compared to Those without VCD

Conclusion:

We investigated patterns of commonly reported lab results in BSP to differentiate BSP with and without VCD. A pattern of ALV in commonly measured labs among BSP suggests a possible lab profile indicating the need for vitamin C screening.





O-354

SERIOUS ADVERSE EVENTS RELATED TO OMEGA GASTRIC BYPASS WITH 2 METER BILIOPANCREATIC LIMB AT 10 YEARS: A PROSPECTIVE OBSERVATIONAL MULTICENTRIC STUDY.

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

The One Anastomosis Gastric Bypass (OAGB) with a 2-meter biliopancreatic limb allows a significant and prolonged weight loss but could expose the patient to severe nutritional deficiencies and disabling reflux. This explains why some countries do not recommend this surgical procedure. There is not enough long-term data in the scientific literature to decide against or in favor of this technique.

Objectives:

To evaluate the occurrence of serious adverse events (SAE) during the 10 years after surgery.

Methods:

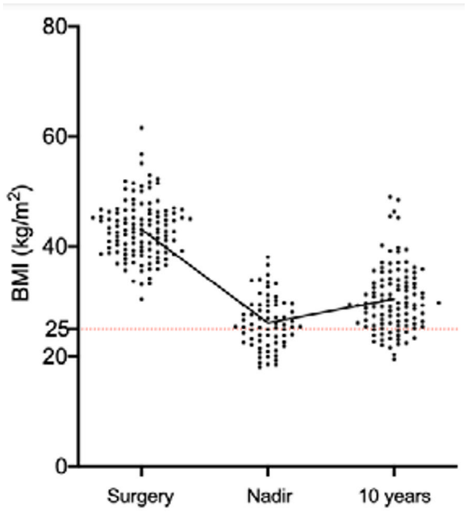
This was a hybrid observational and prospective, multicenter study (NCT04930029) that included all patients who underwent OAGB between 2008 and 2013 in three high-volume expert centers (A, B, C). Independent investigators (center D) randomly selected a sample of 10% of the total population from this cohort to collect clinical, biological, and morphological data as completely as possible at 10 years after the intervention.

Results:

The full cohort consisted of 1,606 patients; the sample, calculated to be representative, consisted of 163 patients. The latter, which we studied deeply, had a 10-year follow-up rate of 69%. Sensitivity analysis showed that the two populations did not differ significantly. At 10 years, the excess weight loss was 70.9 ± 6.0%, and there was a statistically significant improvement in comorbidities (diabetes and sleep apnea syndrome, p<0.001). But at least one SAE has been reported in 52.8% of the patients. Daily reflux was reported by 23% of patients. Upper endoscopy (n=30) revealed gastritis and bile reflux in one third of the patients but did not find any esophageal metaplasia. Eleven percent of the patients have been converted to Roux-en-Y gastric bypass because of reflux. OAGB appeared to be a malabsorptive procedure, as 12% of patients had diarrhea at 10 years with improvement since the early postoperative period. Seven percent of patients had at least one spontaneous bone fracture, 28.7% required intravenous iron supplementation, and 3.7% of the patients have been admitted to hospital for undernutrition.

Conclusion:

The OAGB is an underestimated source of hospitalization for undernutrition in the long term. In parallel, we did not observe any case of gastroesophageal cancer or pre-cancer related to reflux. The use of a GBP with a shorter bile duct could allow less malnutrition, but comparative studies are necessary to validate this hypothesis.



O-355

SERUM AMINO ACID RATIOS AS PROXIES TO MECHANISMS CONTRIBUTING TO IMPROVED METABOLIC HEALTH AFTER BARIATRIC SURGERY

Basic science and research in bariatric surgery

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Introduction:

Altered amino acid metabolism has been investigated at length and implicated in obesity and type 2 diabetes. On the other hand, amino acid ratios which are useful proxies of metabolic processes, have not.

Methods:

Amino acid (AA) ratios were calculated using serum amino acid values obtained by an established targeted mass spectrometry methodology in a cohort of 36 patients before and 3 months after bariatric surgery. Fischers ratio (FR) a molar ratio of branched chain AA/aromatic AA is a marker of hepatic function. Glutamine to Glutamate ratio (GGR) is a predictor of incident T2D and marker of energy metabolism. Alanine to serine ratio (ASR) is associated with the production of 1-deoxysphingolipid, a novel biomarker and mediator of diabetic neuropathy.

Results:

Those with T2D had significantly higher FR (p=0.002), ASR (p=0.011) and lower GGR (p=0.045) when compared to those without T2D at baseline. RYGB but not VSG led to significant decrease in ASR (p=0.003) and increase in GGR (p=0.013). ASR and GGR correlated significantly with HbA1c (r=0.48 & 0.45) and BMI (r= -0.54 and -0.43) respectively. FR reduced significantly post-operatively in those with T2D (p=0.021) but did not correlate with BMI or HbA1c.

Conclusion:

These amino acid ratios and alterations conferred by bariatric surgery points to possible mechanisms that lead to improved glycaemic control and metabolic health after bariatric surgery.

O-356

SERUM GLUCAGON, BILE ACIDS, AND FGF-19: METABOLIC BEHAVIOR PATTERNS AFTER ROUX-EN-Y GASTRIC BYPASS AND VERTICAL SLEEVE GASTRECTOMY

Basic science and research in bariatric surgery

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Background:

Metabolic/bariatric surgery is a highly effective treatment for obesity and metabolic diseases. Serum glucagon, bile acids, and FGF-19 are key effectors of various metabolic processes and may play central roles in bariatric surgical outcomes. It is unclear whether these factors behave similarly after Roux-en-Y gastric bypass (RYGB) vs vertical sleeve gastrectomy (VSG).

Methods:

Serum glucagon, bile acids (cholic acid [CA], chenodeoxycholic acid [CDCA], deoxycholic acid [DCA]), and FGF-19 were analyzed in samples of fasting blood collected before bariatric surgery, on postoperative days 2 and 10, and at 3- and 6-month follow-up.

Results:

From September 2016 to July 2017, patients with obesity underwent RYGB or VSG; 42 patients (RYGB n=21; VSG n=21) were included in the analysis. In the RYGB group, glucagon, CA, and CDCA increased continuously after surgery (p=0.0003, p=0.0009, p=0.0001, respectively); after an initial decrease (p=0.04), DCA increased significantly (p=0.0386). Serum FGF-19 was unchanged. In the VSG group, glucagon increased on day 2 (p=0.0080), but decreased over the 6-month study course (p=0.0025). Primary BAs (CA and CDCA) decreased immediately after surgery (p=0.0016, p=0.0091), then rose (p=0.0350, p=0.0350); DCA followed the curve of the primary BAs until it fell off at 6 months (p=0.0005). VSG group serum FGF-19 trended upward.

Conclusion:

RYGB and VSG involve different surgical techniques and final anatomical configurations. Between postoperative day 2 and 6-month follow-up, RYGB and VSG resulted in divergent patterns of change in serum glucagon, bile acids, and FGF-19.

O-357

SERUM LIPIDOMIC SIGNATURES OF TYPE 2 DIABETES AND EARLY SURGICAL DIABETES RESOLUTION

Basic science and research in bariatric surgery

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Introduction:

Dysregulation of the serum lipidome is thought to be one of the mechanisms contributing to the pathogenesis of obesity and type 2 diabetes (T2D). This study investigated the immediate effects of bariatric surgery on the serum lipidome in individuals with T2D and obesity to provide an insight into the association between the serum lipidome, T2D and surgical T2D resolution.

Methods:

Using a targeted mass spectrometry methodology, 19 serum lipid subclasses were quantified in a cohort of 36 patients (17 T2D) before and 3 months after bariatric surgery. 18 patients underwent Roux-En-Y gastric bypass and Sleeve Gastrectomy respectively.

Results:

Serum sphingolipids: sphingomyelin (p=0.004), hexosylceramide (p=0.005) and lactocyslceramide (p<0.001) were significantly lower in those with T2D at baseline. RYGB but not VSG led to widespread significant changes to 12 out of 19 lipid subclasses. Change in HbA1c was significantly and negatively correlated with change in lactocyslceramide (r=-0.23), lyso-phosphatidylcholine (r=-0.38) and sphingomyelin (r=-0.39). Only those with T2D resolution had a significant increase in lactocyslceramide (p<0.001) and decreases in dihydroceramide (p=0.008) and phosphatidylcholine (p=0.028). Serum lactocyslceramide levels did not correlate with BMI.

Conclusions:

Sphingolipids are a biologically active class of lipids with links to systemic inflammation and beta cell dysfunction. These results suggest they play a role in T2D pathophysiology and surgical modulation of sphingolipid metabolism may be associated with weight independent mechanisms of action linked to glycaemic control.

O-358

SHINING THE LIGHT ON THE FIGHT: EXPLORING PUBLIC PERCEPTIONS ON OBESITY AND BARIATRIC SURGERY

Behavioral health and bariatric surgery - Pre and post-op challenges

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Background:

The six Gulf Cooperation Council countries are among the highest adult obesity and type2 diabetes prevalence in the world. More than 30% of the population are obese and overweight accounting for 60%, and highest rates of obesity are seen in KSA, Kuwait, and Qatar.

Methods:

A cross sectional study was conducted in Oman. An electronic survey was designed with 26 elements divided into five themes and was distributed to the public. Data that met inclusion criteria were analysis using SPSS v22.

Results:

A total of 1055 filled the survey, and 864 responses were analysed. Exclusion flow diagram is shown below. Data from each country were analysed separately. Highest number of participants was from North albatinah in Oman (243). The mean age was 29.68±8.6, with female accounting for 60.3%.

There was a lack in the knowledge of definition of the morbid obesity were only 39% of participants answered correctly. At the same time, 70.8% of Omani responders have tried to lose weight and 14% used medication. Use of weight reducing of medication was more associated with female participants (p=0.001). Majority of female participants (63.9%) agree that bariatric surgery is a medical procedure (p=0.025). There was a significant difference in the awareness of the different bariatric procedures performed in nearby centres between male and female (p=0.048). 41.1% of participants were following an account in social media related to weight reduction and bariatric surgery. This accounted for almost 47.9% of the participants who tried to lose weight (p= 0.001). Participants who heard bad stories about bariatric surgery had negative perception of surgery and therefore, considered bariatric surgery as high-risk intervention with high risk of death (80.3%, p<0.05). This could be a factor in the lower number of patients seeking bariatric surgery.

Hence, social media, general media, and word of mouth are highly influential and need to be targeted to promote effectiveness of bariatric surgery and correct current negative image towards surgery.

Conclusion:

Despite the current high prevalence of obesity and its comorbidities, there is a gap in the appreciate of this fact by the public. The media is a strong influential factor and need to be targeted to promote awareness towards obesity and tackle challenges affecting bariatric surgery.

O-359

SHORT-TERM OUTCOMES OF ROBOTIC ROUX-AND-Y GASTRIC BYPASS IN SUPEROBESE PATIENTS

Robotic bariatric surgery

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Introduction:

Superobesity (BMI>50 kg/m2) can yield to higher morbidity/mortality in bariatric surgery related to patient's characteristics. Robotic technology shows promising early outcomes indicating potentially offered several advantages over laparoscopic surgery. The aim of this study was to present our robotic Roux-en-Y gastric bypass (RYGB) experiences in superobese patients with regard to intra-and postoperative outcomes.

Method:

From January 2018 to June 2021, 143 patients with superobesity underwent robotic RYGB. The gastric pouch was performed with linear stapler and the Roux Limb was created end-side with the gastrojejunal (GJ) anastomosis handsewn performed. A latero-lateral jejuno-jejunostomy (JJ) anastomosis was established by placing a 60 mm linear stapler. All of the patients underwent an intraoperative leakage test for GJ anastomosis using methylene blue. The demographic data of patients, operative and postoperative findings in these patients were defined.

Results:

This study included 59 women and 84 men, with a mean age of 34 (range: 26–52). The mean preoperative BMI was 54 (range 51-64). The mean operation periods was 165 minutes for robotic RYGB and the docking process is also included in this period. Early (<30-day) complications included urinary tract infections (0,7%), atelectasis (1,4%), venous thromboembolism (1,4%), surgical site infection (2,1%). No leakage or bleeding of gastric pouch-jejunal and jejuno-jejunal anastomosis. Oral food intake was started at an average of 1.8 days. The average hospital stay was 3.2 days and return to normal activity was 7.8 days.

Conclusions:

The results of this study indicate that robotic RYGB is an effective and safe option for superobese patients. Robotic RYGB is an acceptable surgical option for superobesity, however we are needed to identify medium-term weight loss maintenance after surgery.

O-360

SHORTENED TOTAL ALIMENTARY LIMB LENGTH (TALL) FOR WEIGHT LOSS FAILURE FOLLOWING ROUX-EN-Y GASTRIC BYPASS: A CAUTIONARY TALE FROM A TERTIARY REFERRAL CENTER

Long term results (> 10 years)

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Background:

Revisional bariatric surgery accounts for approximately 17% of all bariatric surgery operations performed annually in the United States. The most common indication for revisional bariatric surgery following Roux-en-Y gastric bypass (RYGB) is inadequate weight loss. The conversion of a standard RYGB to a shortened total alimentary limb length (TALL) has been proposed to improve weight loss following failed RYGB. Nevertheless, TALL often results in severe nutritional deficiencies.

Objectives:

To detail our institution's long-term experience with TALL as a revisional bariatric surgery procedure.

Methods:

Retrospective chart review was performed on all patients who underwent TALL for inadequate weight loss following RYGB. Baseline characteristics, operative details, and long-term weight and nutritional parameters were collected.

Results:

A total of 20 patients underwent TALL at our institution from 1999-2011. The average body mass index (BMI) at the time of TALL was 45 kg/m2. The average TALL length was 239 centimeters and the average common channel length was 113 centimeters. At an average follow-up of 12.2 years, the average total weight lost was 51 kg, the average % total weight lost was 29%, and the average excess weight loss was 51%. Seventeen patients (85%) experienced severe protein and vitamin deficiencies. Osteoporosis, cirrhosis, and kidney failure were some of the end-stage results of our patients' protein and vitamin deficiencies.

Conclusions:

TALL results in substantial weight loss and is an effective revisional operation for patients with inadequate weight loss following RYGB. Nevertheless, our institutional experience demonstrates that TALL with short common channels results in significant protein and vitamin deficiencies with associated end-stage organ dysfunction. In order to minimize the morbidity associated with TALL, we recommend a longer common channel length, lifelong vitamin and mineral supplementation, and lifelong follow-up with a bariatric surgery specialist.

O-361

SIMULTANEOUS CHOLECYSTECTOMY DURING BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH

Duodenal switch procedures, including single-anastomosis DS

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Background:

Among all patients undergoing bariatric surgery, approximately 20% have associated cholelithiasis. Bariatric surgery has been related to an increase in the development of gallstones due to changes in bile components and bile flow. Specifically, biliopancreatic diversion with duodenal switch (BPD/DS) is a bile salt wasting operation and may be more lithogenic than Roux-en-Y gastric bypass. Access to the biliary tree after a BPD/DS is challenging due to a long biliary limb and absence of remnant stomach. This explains why some surgeons perform routine cholecystectomy during BPD/DS. Currently, there is no consensus on performing a simultaneous cholecystectomy during BPD/DS.

Objectives:

Determine the prevalence of gallbladder disease among patients undergoing BPD/DS in order to understand if a simultaneous cholecystectomy is advisable.

Methods:

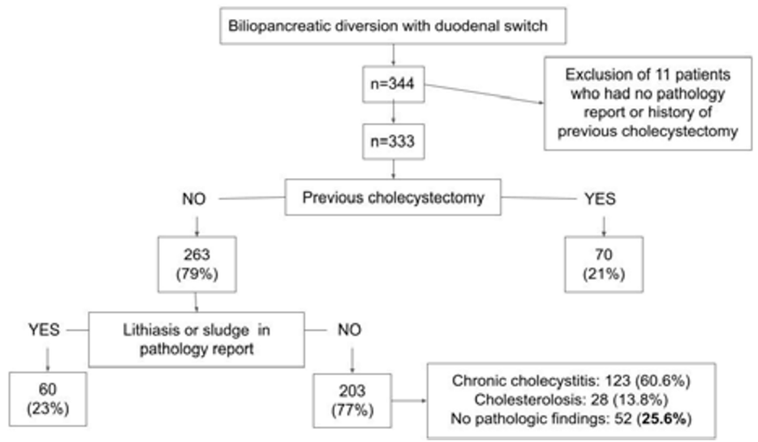
A retrospective review of a prospectively maintained database of all the BPD/DS cases in a single-center program from November 2009 to April 2019 was performed. Our group performs routine cholecystectomy during BPD/DS. Primary outcome of the study was to report the incidence of gallbladder disease (which could lead to symptomatic gallbladder disease) using pathology reports.

Results:

344 patients underwent BPD/DS during the time period, 11 who did not have a pathology report were excluded. From the remaining 333 patients, 70 had already undergone a cholecystectomy. Simultaneous cholecystectomy was performed in 263 patients: lithiasis was present in the pathology report of 60 patients (23%). From the remaining 203 patients, only 25% had no pathological findings (Flowchart). Hence 80% of the patients who underwent simultaneous cholecystectomy at the time of BPD/DS had gallbladder disease.

Conclusion:

Our results showed a prevalence of cholelithiasis in patients undergoing BPD/DS slightly higher than the estimated for patients with obesity. However, pathological findings indicative of gallbladder disease were present in 80% of the patients who underwent a BPD/DS. As we expect the incidence of symptomatic gallbladder disease to increase after this procedure, a greater need for cholecystectomy and potentially bile duct stone removal would be encountered in a more complex anatomy. Without an appropriate randomized controlled trial to shed further light on this matter, our study supports the practice of performing simultaneous cholecystectomy during BPD/DS.



O-362

SIMULTANEOUS ORTHOTOPIC LIVER TRANSPLANTATION AND SLEEVE GASTRECTOMY FOR END-STAGE LIVER DISEASE AND MORBID OBESITY: A PILOT STUDY

Transplants (liver, kidney)

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Background/Introduction:

Morbid obesity (MO) is considered a challenging condition for end-stage liver disease patients who need a liver transplant (LT). Bariatric surgery (BS) before LT is hazardous because of liver failure and portal hypertension, whereas post-LT procedures could be influenced by higher technical issues. In order to overwhelm these issues, we started at our institution a program for simultaneous LT and sleeve gastrectomy (SG) in morbidly obese recipients.

Objective:

The aim of the study was to determine feasibility and safety of simultaneous LT and SG.

Methods:

Between 2016 and 2020 5 (2 female and 3 male) selected patients underwent simultaneous LT and SG. Our population characteristics were: causes of liver failure: three NASH associated with type 2 diabetes, one HBV-related cirrhosis, one HCV-related cirrhosis complicated by hepatocellular carcinoma; mean age was 49 years (+/- 4); mean BMI was 46 (+/- 7); mean MELD (model for end-stage liver disease) was 21 (+/- 9); mean waiting list time was 132 days; mean donor age was 54 years (+/- 13); mean donor BMI was 29 (+/- 6).

Transplant surgeons performed firstly LT using piggyback technique; mean cold ischemia time was 390 minutes (+/- 70), mean warm ischemia time was 56 minutes (+/- 13). After LT bariatric surgeons performed SG on orogastric tube guide. Mean operative time was 590 minutes.

Results:

All recipients were transferred to intensive care unit (ICU). One patient died in 17 POD for graft failure secondary to hepatic artery thrombosis, developed in 12 POD and unsuccessfully treated with percutaneous angioplasty. Mean ICU stay time for remaining patients was 3.5 days (+/- 3), whereas mean total hospital stay was 20 days (+/- 11). We did not observe other major surgical early complications. The four patients are still alive with functioning grafts. At 1-year follow-up mean BMI is 33 (+/- 6) and mean excess weight loss percentage 25% (+/- 9). No late complications were reported.

Conclusion:

We consider simultaneous LT and SG a feasible and valid option for highly selected patients in experienced centers. This approach could expand inclusion LT waiting-list criteria to complex and frail patients otherwise considered not eligible for LT.

O-363

SIMULTANEOUS SLEEVE GASTRECTOMY AND LAPAROSCOPIC HYSTERECTOMY IN FEMALES WITH ENDOMETRIAL CANCER AND MORBID OBESITY. THE FIRST EXPERIENCE AND IMMEDIATE OUTCOMES IN A SERIES OF PATIENTS

Bariatric surgery and cancer

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Introduction:

More than half of cases type 1 endometrial cancer (EC) is directly associated with overweight and obesity. The risk of developing EC in a woman with a BMI ≥30 kg/m2 three times higher than in a female with the normal body weight. Every five units increase in BMI increases the risk of EC by 50%. Weight loss achievement in such cases should improve cancer and non-cancer prognosis. We present our experience of a patient series, including 9 females with EC and morbid obesity. Simultaneous sleeve gastrectomies (SG) and hysterectomies (HE) were performed by each of them.

Objectives:

To develop a method for combined simultaneous surgical treatment of EC and morbid obesity in females, to assess the perioperative safety and the immediate results of such simultaneous operations.

Methods:

Nine women with stage 1A-1B EC and morbid obesity were operated in 2019-2020. Simultaneous laparoscopic SG and HE were performed in every case. The age was from 32 to 63 years (mean - 49.5±3.48). Body weight was from 113 to 174 kg. (mean - 139.5±7.49 kg). The BMI of the females ranged from 40 to 72 (mean BMI - 52.0±3.7 kg/m2). The method of simultaneous combined surgical treatment of women with neoplasms of internal genital organs and morbid obesity has been developed and described. Results were assessed up to 1.5 years after the operation.

Results:

The duration of simultaneous operations ranged from 110 to 305 min. (mean 162.7±21.8 min). The average blood loss was 247.6 ± 31.0 ml. Pain syndrome on the first day was 3.1 ± 0.3 points on a ten-point scale. There was no mortality and severe complications. In all patients, the immediate postoperative period proceeded without severe complications; hospital stay ranged from 2 to 7 days (mean 4.4±0.6 days). The longest duration of the follow-up is 18 months, % EWL - 78.9%. There is no evidence of EC recurrence or progression.

Conclusion:

Significant weight loss in type 1 EC in 1a-1в stage will positive impact on oncological prognosis. In the early stages of EC the risk of death from conditions comorbid to obesity in the long-term period is higher than from this type of cancer after treatment. The presence of EC in a female with morbid obesity determines the need to unit HE and bariatric surgery. This can be done both in stages and simultaneously, which has certain advantages. Simultaneous bariatric interventions in combination with HE do not create additional risks, but further study are required.

ORAL ABSTRACTS

O-364

SIMULTANEOUSLY LAPAROSCOPIC VENTRAL HERNIA REPAIR AND BARIATRIC SURGERY. A CASE SERIES REPORT

Hernia surgery in the bariatric patient

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Introduction:
Morbid obesity is an important risk factor for the development of primary and recurrent ventral hernias. Most surgeons consider that severe obese patients should undergo some weight loss before elective ventral hernia repair. We report our experience performing laparoscopic bariatric surgery (BS) with simultaneous ventral hernia repair (VHR)

Methods:
This is a retrospective observational study of patients who underwent laparoscopic VHR and BS in Obesity El Salvador from 2011 to 2017. We studied demographic variables, hernia defect size, comorbidities, surgery time, type of bariatric procedure, hernia repair strategy, and postoperative complications

Results:
Between the years, 2011 and 2017, ten patients underwent laparoscopic BS with simultaneous VHR (table 1) three underwent sleeve gastrectomy, five Roux-en-Y Gastric Bypass, and two revisional bariatric procedures. 80% male and 20% female. The average age was 46 years (31-64) and the average BMI was 46.1 kg/m2 (36.6-57.9). The defects size were from 3x4 cm to 5x10 cm, the mean operative time was 168 min (90-240 min). The hernia repair technique in all those cases was intraperitoneal only mesh (image 1), a short video shows the surgical technique (video 1)

Conclusion:
Actually, we evidence showing safety performance of BS and VHR at the same time without an increase in the complications rate. The repair of ventral hernia with synthetic mesh concomitantly to bariatric surgery is feasible, and it offers safety in terms of infections. The risk of hernia incarceration and small bowel obstruction after leaving an unrepaired small hernia defect during a bariatric procedure is high and may be questionable.

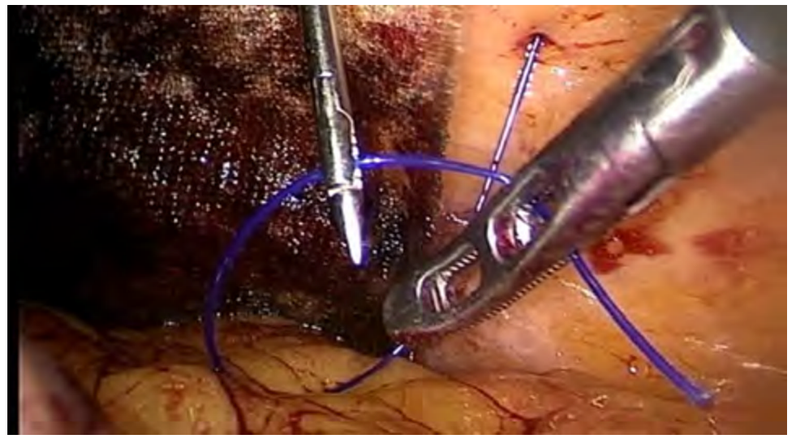

table 1

Age	Gender	BMI (kg/m2)	Hernia size (cm)	Bariatric Surgery
31	F	44.8	3 x 4	SG
57	F	57.9	2 x 5	SG
41	M	45.4	2 x 5	RYGB
50	M	39.4	5 x 10	Revisional RYGB
64	M	36.6	6 x 6	RYGB
36	M	53.2	2 x 5	RYGB
59	M	41.3	5 x 8	Conversion from SG to RYGB
46	M	50.1	4 x 5	RYGB
41	M	42.5	2x3	SG
51	M	49.8	2x2	RYGB

O-365

SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS (SADI-S) AS PRIMARY OR REVISIONAL SURGERY: EXPERIENCE OF A SINGLE CANADIAN BARIATRIC CENTER WITH FOUR YEARS OF FOLLOW-UP

Duodenal switch procedures, including single-anastomosis DS

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Introduction:

SADI is a simplified version of a duodenal-switch, with results closely similar in term of weight loss and improvement of comorbidities.

Objectives:

Given the effectiveness of SADI as a primary or secondary procedure after sleeve, we analysed our results in term of weight loss, reduction/remission of comorbidities, morbidity and mortality.

Methods:

This retrospective study of our prospectively collected database includes 180 patients operated between January 2016 and March 2020. Procedures were laparoscopically performed with a sutured anastomosis at 250-300cm from the ileo-caecal valve, and at least 2cm after the pylorus. 67 had a primary SADI-S and 113 had a two-stage procedure, either for weight regain (n=69), insufficient weight loss (n=29), or initially planned (n=15), within a median delay of 38 month (10-113).

Results:

Mean age of the population was 44.1 yo. There were 32 males and 148 females (17.8% / 82.2%). Follow-up at 1 and 4 years postoperatively was 70% and 62.5% of the original population, respectively. Mean preoperative BMI was 51.8 kg/m2 for primary and 55.9 kg/m2 for two-stage SADI. Comorbidities were obstructive sleep apnea (OSA), hypertension (HTN) and dyslipidemia (DLP) in 104 (57.8%), 93 (51.4%), and 59 (32.8%) patients. Type 2 diabetes (T2D) occurred in 66 (36.7%) patients and 11 (16.7%) of them required insulinotherapy. BMI and EWL were respectively 33.9 kg/m2 and 66.4% at 1 postoperative year and 33.1kg/m2 and 64.2% at 4 years. Remission of T2D, DLP, HTN, and OSA was respectivly reached in 56.1%, 54.2%, 53.8%, and 33.7% of cases, with 54.5% (n=6) reduction in the number of patients using insulin. Postoperative morbidity rate was 7.7% (Primary SADI-S, n=8 and 2 stages SADI, n=4): 7 early leaks of the duodeno-ileal anastomosis (5 were managed with antibiotics and percutaneous drainage and 2 in septic shock needed surgical revision, 1 of which following perforation on endoscopic dilatation for stenosis), 2 stenosis (1 endoscopic dilatation mentioned above and 1 needed surgical revision), 4 bleedings (conservative treatment only). Dindo-Clavien 3b and 4 complications concerned 5 (2.8%) patients whom surgery were performed at the beginning of our experience. There was no 30-day mortality. 26 patients (14.4%) experimented daily diarrhea (not altering QOL and well managed with medical treatment). Malnutrition/malabsorption, and/or incontrollable diarheas needing revisional surgery, occurred in 5 patients (2.8%) at a median of 13 postoperative months (4-37).

Conclusion:

SADI-S procedures are safe and efficient on a short and long-term course and can be a procedure of choice for super obese patients, as a primary or revisional surgery.

O-366

SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS VS ROUX-EN-Y GASTRIC BYPASS AS A REVISION PROCEDURE POST FAILED SLEEVE GASTRECTOMY

Revisional surgery

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[1]Surgery, University of Montreal, Mont-Royal, Canada; [2]Hopital du Sacré Coeur, Montreal, Canada.

Background:

Failure to achieve good weight loss outcomes after Roux-en-Y gastric bypass (RYGB) as revisional procedure after a sleeve gastrectomy (SG) is not uncommon. Single-anastomosis duodeno-ileal bypass (SADI) could potentially offer a better weight loss solution due to its higher malabsorptive capability.

Objectives:

To analyse the weight loss outcomes of SADI and RYGB as a revision procedure post SG for weight loss failure.

Methods:

We performed a retrospective study on all revision SADI (N=22) and RYGB (N=42) procedures from 2011 to 2017, realised in our tertiary bariatric center for weight loss failure after SG. Outcomes are post-operative weight loss, complication rates and resolution rate of obesity-related co-morbidities.

Results:

SADI group had a significantly lower BMI at 1 and 2 years as well as at the end of follow-up (33.7 vs 39.6; 32.3 vs 40.6; 32.3 vs 39.9). %EBWL in SADI group was significantly better at the end of follow up (73.7 vs 51.2). Bowel obstruction (8.6%) and malnutrition (6.4%) were the most frequents complications in RYGB and SADI group respectively. Two cases of anastomotic leakage were reported after SADI. The SADI group reported significantly better resolution rates for hypertension and diabetes compared to RYGB patients (66.7% vs 10% and 85.7% vs 25%). The overall re-intervention was similar for the two groups.

Conclusions:

According to our data, SADI is the preferred revision procedure after SG offering a better weight loss compared to RYGB. SADI offers also a better resolution of hypertension and diabetes on the long term.

ORAL ABSTRACTS

O-367
SINGLE ANASTOMOSIS DUODENO–ILEAL BYPASS WITH SLEEVE GASTRECTOMY VS BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH: RESULTS OF A RETROSPECTIVE COHORT STUDY AT TWO YEARS OF FOLLOW-UP

SADIs

T. Saber, A. Pasquer, D. Delaunay, J. Crozet, E. Pelascini, J. Perinel, M. Adham, G. Poncet, M. Robert.

Service De Chirurgie Digestive, Hôpital Edouard Herriot University Medical Center, Lyon, France.

Background:

Obesity and its associated morbidities have become a significant concern all over the world. Bariatric surgery, regardless of its type, is the most effective approach for treating morbid obesity. Single-anastomosis sleeve jejunal (SASJ) bypass is a novel bariatric surgery technique and can be considered for patients with former background of severe gastroesophageal symptoms.

Objectives:

The purpose of this research was to compare SASJ bypass outcomes with other techniques during a 6-month followup.

Methods:

This is a non-randomized clinical trial conducted on 100 patients,who underwent four types of bariatric surgery (classic Roux-en-Y bypass, SASJ bypass, omega gastric bypass, and sleeve gastrectomy), and each one of these types contained 25 cases, during the time period of 2 years from2016 to 2018. Patients' information including age, gender, height, basal weight, body mass index (BMI), serum albumin, and hemoglobin A1C were recorded, within 1, 3, and 6 months after their surgery, and also were compared with each other.

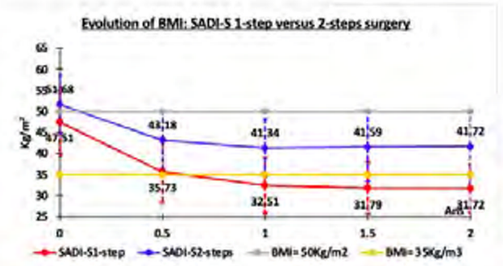
Results:

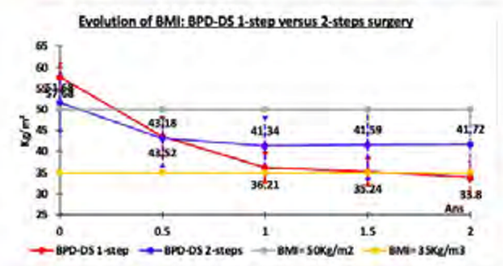
Members of the four groups were similar due to their age, gender distribution, height, baseline BMI, hemoglobin A1C, albumin, and also excess weight (P value > 0.05); however, the sleeve gastrectomy group baseline weight was significantly higher compared with the other three groups (P value = 0.013). All of the groups significantly lost weight during this 6-month period, but the comparison between them indicated no statistical difference regarding excess weight loss,BMI, hemoglobin A1C, and albumin (P value > 0.05). The excess weight loss mean during 6 months in SASJ bypass was 34.2 ± 5.4%, which was comparable with other groups.

Conclusions:

The weight loss trend after the SASJ bypass was similar to that of older techniques; consequently this technique can be considered for cases with particular indications due to the reversibility and also more accessible gastric follow-up studies in the
SASJ approach. Further research with longer follow-ups are strongly recommended.

Keywords Bariatric surgery. Metabolic surgery. Jejunal bypass. Body mass index





O-368

SINGLE ANASTOMOSIS DUODENO-ILEOSTOMY (SADI-S) VS ONE ANASTOMOSIS GASTRIC BYPASS (OAGB-MGB) AS REVISIONAL PROCEDURES FOR PATIENTS WITH WEIGHT RECIDIVISM AFTER SLEEVE GASTRECTOMY: A COMPARATIVE ANALYSIS OF EFFICACY AND OUTCOMES

Duodenal switch procedures, including Single-Anastomosis DS

A. Salama.

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Introduction:

Many revisional procedures are available for unsuccessful laparoscopic sleeve gastrectomy (LSG) in patients with complications or weight recidivism. Single anastomosis duodeno-ileal bypass (SADI-S) and one anastomosis gastric bypass (OAGB-MGB) are two revisional procedures to address the problem of weight recidivism. We aimed to evaluate the efficacy and outcomes of the 2 revisional approaches (SADI-S vs. OAGB-MGB).

Methods:

A retrospective analysis of prospectively collected database of patients who underwent SADI-S or OAGB-MGB as a revisional procedure for weight recidivism after primary LSG with a minimum 1-year follow-up. Weight loss, comorbidities, nutritional deficiencies, complications, and outcomes were compared in the 2 procedures.

Results:

Ninety-one patients were included in the study (42 SADI-S and 49 OAGB-MGB). There was a significant weight loss (total weight loss percentage, TWL%) at 1-year follow-up observed for SADI-S when compared to OAGB-MGB (23.7 ± 5.7 vs. 18.7 ± 8.5, p = 0.02). However, this difference was not statistically significant at 18 months (26.4 ± 7.3 vs. 21.2 ± 11.0, p = 0.25). Remission of comorbidities (diabetes mellitus and hypertension) was comparable. Although OAGB-MGB had higher complication rate than SADI-S, the difference was not statistically significant (p = 0.39). No mortality was reported in the study groups.

Conclusion:

Both SADI-S and OAGB-MGB are effective and safe revisional procedures for weight regain after LSG. The short-term outcomes are comparable; however, SADI-S is associated with less upper gastrointestinal complications and could be a better option for patients suffering from GERD post-LSG. Moreover, the underlying bile reflux may get worse with OAGBMGB. However, further prospective larger studies are needed.

O-369

SINGLE-ANASTOMOSIS SLEEVE JEJUNAL BYPASS: A NOVEL BARIATRIC SURGERY, VERSUS OTHER FAMILIAR METHODS: RESULTS OF A 6-MONTH FOLLOW-UP—A COMPARATIVE STUDY

Investigational procedures

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Background:

Obesity and its associated morbidities have become a significant concern all over the world. Bariatric surgery, regardless of its type, is the most effective approach for treating morbid obesity. Single-anastomosis sleeve jejunal (SASJ) bypass is a novel bariatric surgery technique and can be considered for patients with former background of severe gastroesophageal symptoms. The purpose of this research was to compare SASJ bypass outcomes with other techniques during a 6-month followup.

Methods:

This is a non-randomized clinical trial conducted on 100 patients,who underwent four types of bariatric surgery (classic Roux-en-Y bypass, SASJ bypass, omega gastric bypass, and sleeve gastrectomy), and each one of these types contained 25 cases, during the time period of 2 years from2016 to 2018. Patients' information including age, gender, height, basal weight, body mass index (BMI), serum albumin, and hemoglobin A1C were recorded, within 1, 3, and 6 months after their surgery, and also were compared with each other.

Results:

Members of the four groups were similar due to their age, gender distribution, height, baseline BMI, hemoglobin A1C, albumin, and also excess weight (P value > 0.05); however, the sleeve gastrectomy group baseline weight was significantly higher compared with the other three groups (P value = 0.013). All of the groups significantly lost weight during this 6-month period, but the comparison between them indicated no statistical difference regarding excess weight loss,BMI, hemoglobin A1C, and albumin (P value > 0.05). The excess weight loss mean during 6 months in SASJ bypass was 34.2 ± 5.4%, which was comparable with other groups.

Conclusions:

The weight loss trend after the SASJ bypass was similar to that of older techniques; consequently this technique can be considered for cases with particular indications due to the reversibility and also more accessible gastric follow-up studies in the
SASJ approach. Further research with longer follow-ups are strongly recommended.

Keywords: Bariatric surgery. Metabolic surgery. Jejunal bypass. Body mass index

O-370

SINGLE-PORT LAPAROSCOPIC SLEEVE GASTRECTOMY IN DAY HOSPITALIZATION, A FIRST EXPERIENCE

Sleeve gastrectomy

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[1]Obesity Centre, Department of Digestive, Oncologic and Metabolic Surgery, Institut Mutualiste Montsouris, Paris, France; [2]Department of Anesthesiology, Institut Mutualiste Montsouris, Paris, France; [3]Paris-Saclay University, Paris, France.

Introduction:

Laparoscopic Sleeve Gastrectomy (LSG) is now a standard bariatric procedure with a short operative duration and a low complication rate. This characteristic allows LSG to be realize in an ambulatory procedure. Single-port in LSG is frequently used but his association with an ambulatory procedure was never describe.

Objective:

Describe our experience in single-port laparoscopic Sleeve Gastrectomy in an ambulatory procedure.

Methods:

Retrospective study, including all consecutive patients undergoing a single-port LSG in day hospitalization between March 2018 to October 2020. All patients were managed by a multidisciplinary team before and after surgery. After surgery, Aldrete score were used to allows patient's return in the ambulatory hospitalization unity and Chung score to enable discharge at home. A daily follow up visit by a specialized paramedic team was realized during the first five days at home. Follow-up visit were made at one, three, six, and twelve months.

Results:

157 patients were enrolled. Operative duration was 55 minutes. A supplementary trocar was necessary in 7 patients (4.5%). 137 patients were unable to discharge the day of surgery (87.9%), 19 patients at day 1 (12,1%) and only one patient leave hospital after day 1 (0.62%). Minor complication, DINDO 1-2, were found in 13 patients (8.1%); major, DINDO 3-4, in one patient (0.62%). There was no death and no need for a reintervention. Nine patients were readmitted (5.7%) for a median days after surgery of 15. At 6 and 12 months, excess weight loss were respectively 69.5% and 86.3%. BAROS score were 8 and 8,5 at 6 and 12 months.

Conclusion:

This study show good results in terms of safety and feasibility for the association between single-port and ambulatory Sleeve Gastrectomy.

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O-371

SLEEVE DURATION AND PERSISTENCE OF SUTURES AFTER ENDOSCOPIC SLEEVE GASTROPLASTY

Endoscopic and percutaneous interventional procedures

E. Espinet-Coll[1], C. Bautista-Altamirano[2], M. Galvao Neto[3] J. Nebreda Durán[1], P. Díaz Galán[1], A. Bargalló García[4].

[1]Gastroenterology, Dexeus University Hospital, Barcelona, Spain; [2]Gastroenterologist, Clínica Londres, Madrid, Spain; [3]Clinical Assistant Professor of Surgery, Endovitta Institute, São Paulo, Brazil; [4]Delfos Hospital, Barcelona, Spain.

Background:

Endoscopic sleeve gastroplasty (ESG) is an effective mid-term procedure for obesity treatment. There are no consistent studies confirming the persistence of a maintained gastric tubular configuration.

Objectives:

We aimed to assess efficacy, sleeve duration, degree of gastric restriction and suture persistence in medium-term follow-up.

Methods:

Prospective, single-center study, including patients with obesity undergoing ESG with at least 1-year follow-up, who underwent: 1) Barium X-ray study (BS) at 6-months, assessing degree of gastric restriction (severe, moderate or mild), and 2) Gastroscopy at 12-months, accounting the number of persistent sutures (tense, lax or absent). Secondary outcomes were weight loss data and procedure safety profile. Kruskall-Wallis test was used for comparison of continuous variables. Chi-Square test was used to compare between categorical variables. A significance level of $p<0.05$ was established.

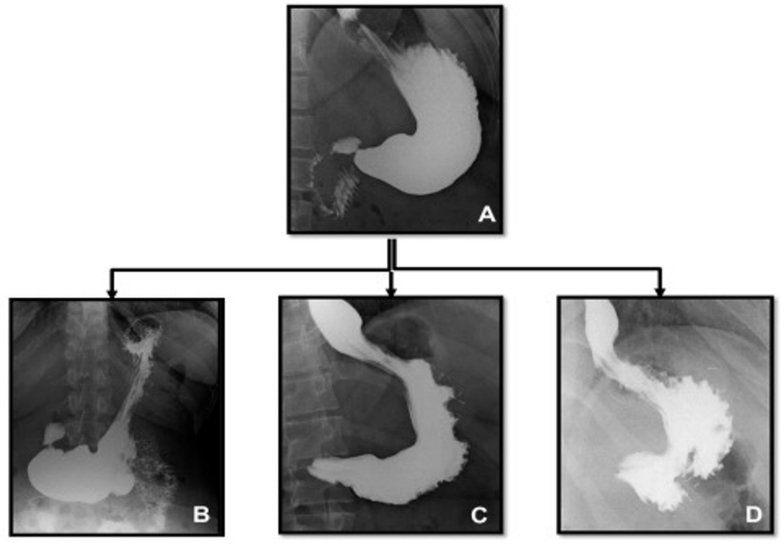
Results:

38 patients (30 women), median age of 47.0 [40.0-51.0] years and average baseline Body Mass Index (BMI) of 37.6 [35.5-41.5] kg/m² were included. A Total Body Weight Loss (%TBWL) median of 17.1% [16.1-22.3%] with TBWL>10% in 94.7% of patients was obtained at 1-year. No major adverse events (AEs) were observed. Six-months BS was performed on 30 patients: 12 (40.0%), 14 (46.7%) and 4 (13.3%) patients showed severe, moderate and mild gastric restriction, respectively. 12-months gastroscopy was performed on 22 patients with 83.64% of sutures persisting (92 of 110, mean 4.2 of 5.0 sutures/patient) and 70.9% with adequate tension. Intact sutures were found in 12 (54.5%) patients and in 10 (45.5%) patients some suture (average 1.8, r=1-3) was detached. There were no differences in %TBWL according to BS reduction (p=0.662) or number of persistent sutures (p=0.678).

Conclusions:

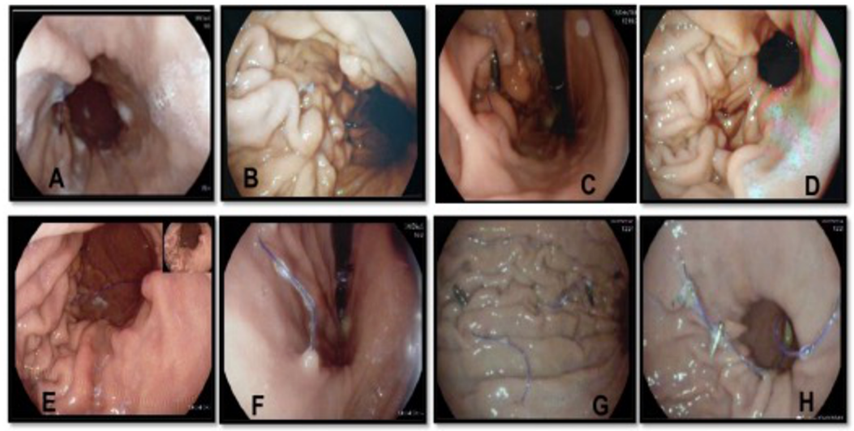
ESG is an effective and safe weight-loss strategy in the medium-term with persistence of most sutures and maintenance of notable gastric reduction and remodeling. Studies with a larger sample size are required to confirm these findings.

Figure 1. Barium contrast study (BS) assessing 6-months degree of gastric reduction.



A. Normal BS stomach prior to ESG **B.** Severe reduction: 12 patients (40%). **C.** Moderate reduction: 14 patients (46.7%). **D.** Mild reduction: 4 patients (13.3%)

Figure 2. Endoscopic control at 12-months assessing gastric reduction and suture persistence. Tense (A-D) and lax (E-H) sutures.



A-B-C-D. Four different ESG suture patterns. Tubular configuration maintained with tense sutures integrity.

E-F-G-H: Laxed sutures. **E.** Proximal maintained reduction with lax distal suture. **F.** Same image in retroversion. **G.** Two lax sutures conditioning a degree of mild reduction. **H.** Distal competent and proximal lax sutures, with medium anchorage detachment probably for not being a full-thickness stitch.

O-372
SLEEVE GASTRECTOMY WITH DUODENOJEJUNAL BYPASS VERSUS ROUX-EN-Y GASTRIC BYPASS FOR REMISSION OF TYPE 2 DIABETES MELLITUS: SHORT TERM RESULTS

Type 2 diabetes and metabolic surgery

Y. Kim, Y. Chung.

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Background:

Although Roux-en-Y gastric bypass (RYGB) has shown promising results for remission of Type 2 diabetes mellitus (T2DM), the risk of remnant gastric cancer has been a point of debate in Asian countries with a high prevalence of gastric cancer. The concept of sleeve gastrectomy with duodenojejunal bypass (SG DJB) is not a new idea but a version of the biliopancreatic diversion (BPD). There is only a handful of research done on comparing T2DM remission between the two procedures.

Objectives:

We would like to report the short term 6 month outcomes of T2DM remission after SG DJB in comparison with that of RYGB.

Methods:

From July 2019 to December 2020, the data of 73 cases of SG DJB and 67 cases of RYGB in patients with T2DM were collected.

Results:

The mean age was 35 in the RYGB group and 39 in the SG DJB group. The male to female ratio was 22:45 in the RYGB group and 9:64 in the SG DJB group. There were statistically significant differences in the mean weight and mean body mass index (BMI) between the two groups (113 kg in RYGB group vs. 98 kg in SG DJB group and 40 kg/m2 in RYGB group vs. 36 kg/m2 in SG DJB group). The operation time was significantly longer with an average of 154 minutes in the SG DJB group compared to the 118 minutes in the RYGB group. There was no significant difference in length of hospital stay or perioperative complications between the two groups. There was no significant difference in percentage of total weight loss (% TWL) or change in BMI between the two groups at postoperative 6 months (24.9 % in RYGB group vs. 29.6 % in SG DJB group and 9 kg/m2 in RYGB group vs. 9 kg/m2 in SG DJB group). The mean HbA1c level at postoperative 6 months was 5.6 (±0.9) in the RYGB group and 5.8 (±0.9) in the SG DJB group. Seventy nine percent (58/73) of the SG DJB had an HbA1c level lower than 6.5% at postoperative month 6 while 77% (52/63) in the RYGB group.

Conclusion:

SG DJB has comparable outcomes of weight loss and remission of T2DM in comparison to that of RYGB.

O-373
SLEEVE-DOR ANTERIOR FUNDOPLICATION FOR OBESITY IS A POTENTIAL NOVEL TECHNIQUE TO ALLOW SLEEVE GASTRECTOMY IN PREVIOUSLY SYMPTOMATIC REFLUX PATIENTS

Sleeve plus

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Background:

Symptomatic gastroesophageal reflux is considered a relative contraindication to perform sleeve gastrectomy for obesity, due to known worsening of symptoms and resulting in later revision to gastric bypass in a significative amount of patients. Current alternatives as associate 360o Fundoplication can potentially produce severe complications and inadequate weight loss due to large amount of stomach left.

Objectives:

The present study evaluates the possibility of performing an anti-reflux anterior DOR Fundoplication combined with sleeve gastrectomy to treat patients with obesity and preexistent reflux disease.

Methods:

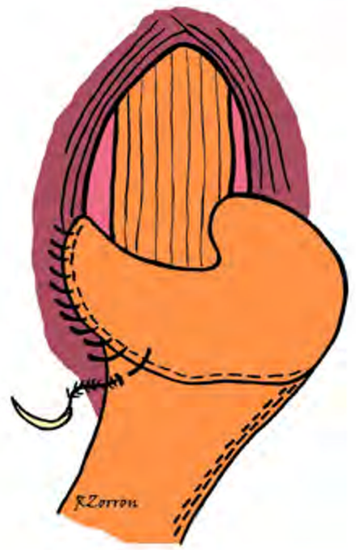
In this prospective study, 18 patients with indication for sleeve gastrectomy with endoscopically and clinical reflux disease with esophagitis signed informed consent and were submitted to the technique. Four trocars were used. After sealing the greater curvature, the hiatus was systematically dissected and the right crus was identified. Sleeve gastrectomy was performed from 3cm from pylorus, lefting an “ear” ocf 3 cm at the fundic region. An anterior 180o Fundoplication was performed with barbed non-absorbable sutures over a 36Fr Gauge. Blue methylene anastomotic test was performed, and no drainage was used.

Results:

In total, 18 procedures were included, no hiatal hernia was found preoperatively. Mean age was 48.3 years. Preoperative mean BMI was 52.4kg/m2. Within 30 days postop, no complications could be identified, and no device-related adverse events were reported. In the 6 months follow-up, only one patient has no relief from reflux symptoms and a conversion to RYGB was performed. The other patients were free of medication after 60 days.

Conclusion:

In this population with obesity with surgical indication, the use of the SLEEVE-DOR Technique is a potential alternative for patients with obesity and previous severe reflux with indication for Sleeve gastrectomy.



O-374

SLIM OAGB - SHORT LIMB INSPECTABLE MODIFICATION OF OAGB FOR PATIENTS WITH LOW BMI 30-39,9

Surgery and strategies for low BMI

V. Evdoshenko[1], V. Fedenko[1], N. Bordan[1], A. Tsepkovsky[2].

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Introduction:

There is currently a clear trend in bariatric surgery to expand the indications to surgical treatment of obesity and associated metabolic disorders towards lower BMI levels. However, all known restrictive operations, which could be used for patients with obesity class 1 and 2 (BMI 30-39,9), have now been compromised by the high probability of long-term complications or low efficacy.

Objective:

To develop the acceptable method of surgical treatment of patients with obesity class 1 and 2, in accordance the following criteria: high safety, the absence of risk or minimal risk of malabsorption in the intestine, the possibility of postoperative inspection of the excluded part of the stomach and the duodenum, the absence of necessity to resect and remove organs, minimal probability of bile reflux up to the stomach and the esophagus and potential reversibility of operation in case of necessity.

Method:

In accordance with the abovementioned criteria, we modified the OAGB (one anastomosis gastric bypass) according to the following technique. The pouch was created from the lesser curvature on the 33Fr bougie no less than 25 cm in length. The «end-to-side» anastomosis was performed in retrogastric and retrocolic mode, using the manual suture, at the distance of 20 cm from the Treitz ligament.

Results:

From June 2019 till March 2021, we operated 78 patients aged 23-48. The mean weight of patients was 86.12 kg (ranged 62-124 kg). The mean BMI was 32.4 (ranged 21.96-39.62).

The initial 1-year results were analyzed in a group of 21 patients, all of them achieved their normal BMI levels. Their mean BMI dropped from 32,4 to 22,3. The mean %EWL was 183%. The %TWL was 30,3%.

In 7 patients, a control upper GI endoscopy was performed. In all the patients, the endoscope, passed through the anastomosis into the duodenum, then reached the fundus of the excluded stomach. During the duodenoscopy we visualized the major duodenal papilla in all cases, using a standard direct view flexible endoscope.

Conclusion:

The proposed modification of OAGB with a very short limb is a safe and effective kind of bariatric surgery.

This operation provides the possibility to perform postoperative diagnostic and therapeutic endoscopic procedures of the excluded stomach and the duodenum.

After obtaining favorable long-term results, the proposed operation could be recommended for surgical treatment of patients with the 1st an 2nd class obesity.

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O-375

SMALL BOWEL CANCER AFTER ROUX-EN-Y GASTRIC BYPASS SURGERY

Bariatric surgery and cancer

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Background:

Bariatric surgery is the most effective technique for weight loss and obesity-related comorbidities reduction with satisfactory long-term results. The procedure has been associated with a decreased rate of few malignancies. However, the risk of small bowel cancer after Roux-en-Y gastric bypass (RYGB) has not been defined yet.

Objectives:

The aim of this article is to investigate the rate of small bowel cancer in our series and to compare our results with those of the literature.

Methods:

All patients who underwent RYGB between 2010 and 2020 in our Unit were retrospectively reviewed. Patients who underwent sleeve gastrectomy or redo-RYGB were excluded. A systematic review of the literature on small bowel cancer after bariatric surgery was performed using the following databases: PubMed, Google scholar and CENTRAL. The search strategy was performed using the following terms: gastro-intestinal cancer, small bowel cancer, adenocarcinoma, bariatric surgery, Roux-en-Y gastric bypass, gastro-jejunal anastomosis.

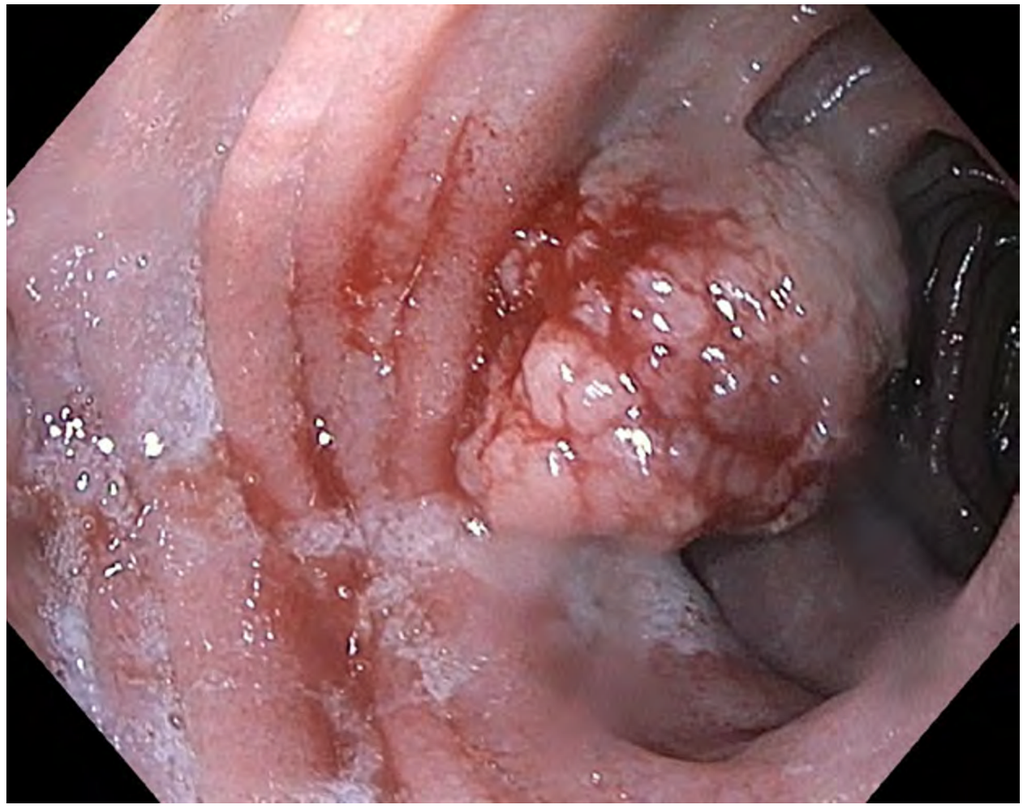
Results:

1158 patients met the inclusion criteria and, among them, only one case of small bowel cancer was found: a 49-years-old woman who underwent RYGB for morbid obesity. The alimentary and biliary limbs measured 120 cm and 60 cm respectively. The postoperative period was uneventful. 8 years after the surgery, the patient complained about fluctuating epigastric pain without further symptoms. The gastroscopy revealed a villous tumor just after the gastrojejunal anastomosis. Endoscopic tattooing and biopsy of the lesion were performed. Histology showed a high-grade dysplasia lesion. Staging (CT Scanner, entero RMI and colonoscopy) was negative and the CEA was normal. Eventually, an oncologic laparoscopic small bowel resection was performed and a new gastro-jejunal anastomosis fashioned. The pathology revealed a well-differentiated adenocarcinoma. At 7 months of follow-up, the patient had no local or distant recurrence.

The literature search found three articles including a review of gastro-intestinal tract cancers following bariatric surgery and 2 similar cases of small bowel cancer near gastro-jejunal anastomosis with similar a specific presentation.

Conclusion:

This article highlights the importance of a regular follow-up after bariatric surgery. Malignancy should be part of differential diagnosis of a specific symptom after bariatric surgery. Further studies are necessary to define the post-RYGB-related risk of small bowel cancer.



O-376

STAGE-DEPENDENT MANAGEMENT OF SLEEVE GASTRECTOMY LEAKS – A SYSTEMATIC REVIEW WITH PROPOSED CT-BASED CLASSIFICATION AND MANAGEMENT ALGORITHM

Sleeve gastrectomy

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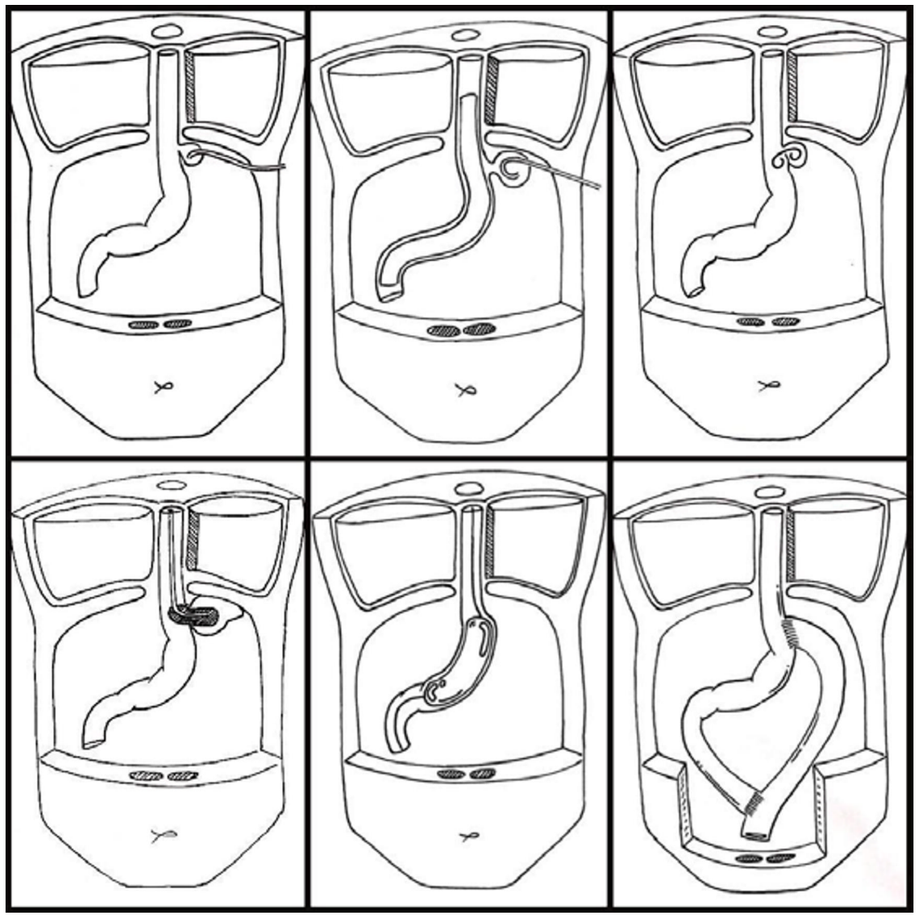
Background / introduction:

Gastric leak following laparoscopic sleeve gastrectomy (LSG) remains a complex and challenging problem for clinicians and patients. Managing these deep/organ space surgical site infections (SSI) involves supportive, radiologic, endoscopic and surgical therapies, frequently in combination (Figure 1).

Figure 1. Endoscopic and surgical treatment options for LSG leak



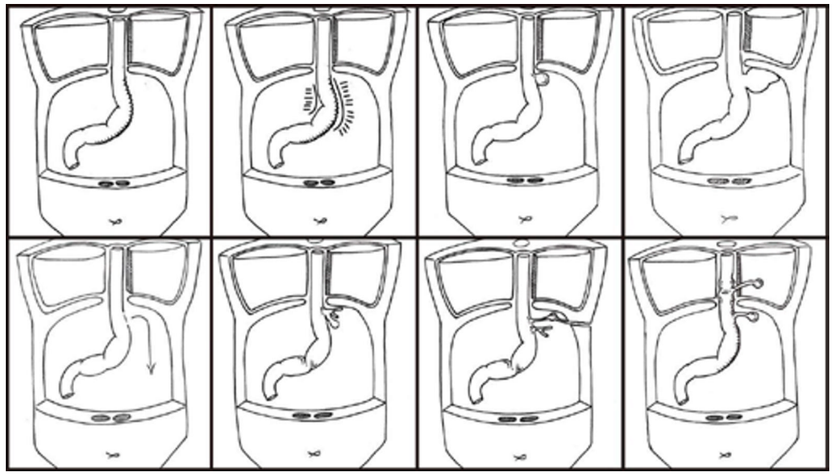
Objectives:

To assess the efficacy of different treatment strategies for the management of LSG leaks based on a proposed CT-based staging system.

Methods:

A comprehensive systematic review of the literature was performed of studies reporting leak or deep/organ space SSI following LSG and management. Included studies were categorized according to severity based on a CT-based classification (Figure 2). The efficacy of treatments was analysed.

Figure 2. Sleeve gastrectomy leak staging classification



Legend

Type I	CT evidence of phlegmon
Type IIa	Small abscess at staple line (<5cm)
Type IIb	Large abscess extending lateral to staple line (≥5cm)
Type III	Uncontained leak or perforation (generalized peritonitis)
Type IVa	Chronic fistula with abscess cavity close to staple line (<5cm)
Type IVb	Chronic fistula with abscess cavity lateral to staple line (≥5cm)

Results:

Of 1030 potential articles, 22 studies were included in this review, reporting on 719 patients with gastric leaks. In type 1-2 leaks, surgical or radiological drainage followed by primary endoscopic therapy (i.e. stenting, internal drainage, OTSC® clips, fibrin glue and/or E-VAC®) were effective (leak resolution rates – 50-100% between reporting papers). Endoscopic therapy remains a viable treatment option in treating type 3-4 leaks with success rates ranging from 33-95%, although surgery maybe required (i.e. fistula-jejunostomy, Roux-en-Y gastric bypass or total gastrectomy) maybe required in chronic leaks where other modalities failed.

Conclusion:

Management of sleeve leaks can be driven by the underlying leak pathophysiology. Classification can and should determine what care is suitable. It is important to define if the leak is localized or lateralized, early or persistent and assess for the presence of a collection and/or stenosis. Care may evolve over time may require escalation to alternative therapies. We propose an algorithm that stresses early and recurrent use of endoscopy, judicious use of stenting and avoiding methods that rely on external drainage that encourage external fistulae, in favour of a focus on drainage and ablation of the leak cavity, as well as treatment of stenosis.

O-377

STAPLE LINE COMPLICATIONS WITHOUT REINFORCEMENT, WITH OVERSEWING AND WITH BUTTRESSING USING OXIDIZED REGENERATED CELLULOSE IN LAPAROSCOPIC SLEEVE GASTRECTOMY, RANDOMIZED COMPARATIVE STUDY

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy (LSG) is currently one of the most commonly performed bariatric procedures. Oversewing is one of most commonly performed techniques for staple line reinforcement. Oxidized regenerated cellulose (ORC) is an effective hemostatic agent with several advantages. This study aims to compare the outcomes of no-reinforcement, staple line oversewing and staple line buttressing with ORC in LSG.

Methods:

Patients were randomized into three groups, 100 patients underwent LSG without reinforcement, 100 patients underwent LSG with oversewing of the staple line and 100 patients underwent LSG with staple line buttressing by using ORC.

Results:

The mean operative time was longer in patients with staple line oversewing; group B (53.4 ± 4.21minutes) compared with no reinforcement and using the ORC over the staple line (p-value <0.01). The postoperative bleeding is significantly (P<0.05) reduced with oversewing and with using ORC compared with the control group.

Conclusion:

Oversewing of the staple line during LSG is a non-expansive and easy method to decrease bleeding. However, it is time-consuming, associated with a higher incidence of staple line hematoma and postoperative vomiting. Using ORC is effective in reducing staple line bleeding in LSG compared with the control group.

O-378

STEADY WEIGHT LOSS FOLLOWING BANDED VERSUS NON-BANDED GASTRIC POUCH IN LAPAROSCOPIC SLEEVE GASTRECTOMY

Banded procedures

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Background:

The two-stage procedure, Laparoscopic bilio-pancreatic diversion duodenal switch (BPD-DS), was the original precursor for laparoscopic sleeve gastrectomy (LSG). Nowadays, sleeve gastrectomy become the most popular and commonly performed bariatric procedure in the world. Low satisfactory long-term outcome of the LSG is also increasing, particularly; maintenance of long-term weight loss is a major concern. Aetiology for insufficient weight loss or weight regain is multifactorial; an increase in the gastric reservoir size due to long-term gastric pouch dilation is frequently suggested to be one of the main causes. Following the same concept of applying a band on the gastric pouch in LRYGB, banded LSG might come out with similar satisfactory long-term outcome.

Methods:

Prospective study included 99 patients who underwent Laparoscopic sleeve gastrectomy, between January 2015 and January 2018 at Ain Shams University Hospitals. Patients are divided into two groups, Group I (N=50) underwent Traditional laparoscopic sleeve gastrectomy (LSG) and Group II (N=49) underwent Laparoscopic Banded sleeve gastrectomy (LBSG). Follow up of percentage of excess weight loss (% of EWL) which was our primary outcome. Moreover, assessments of the degree of improvement of preoperative comorbidities, weight gain as well as detection of postoperative complication whether early or late.

Results:

Of 99 patients, 80 patients (81%) had completed one year, 68 patients (69%) had completed 2 years, and 60 patients (60%) had completed 3 years of follow-up. Percentage of EWL. In the LBSG group was higher than in the LSG group and had a statistically significant difference at each given time point after one and three years. The LBSG group had less weight regain (2%) at the 3-year follow-up visit compared to LSG group (16%) (P =0.015).

Conclusion:

LBSG is superior to LSG in promoting and maintaining mid-term weight loss without adding extra burden in terms of operative time and post-operative complications.

O-379
STEATORRHEA AFTER ONE ANASTOMOSIS GASTRIC BYPASS, A BLESSING OR A CHALLENGE? PROSPECTIVE STUDY OF 70 PATIENTS IN FIVE YEARS

Hypo-absorptive procedures

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Introduction:

OAGB, being a hypo absorptive procedure, is known to induce steatorrhea. Steatorrhea can be beneficial for weight loss but can be troublesome as well. We studied different aspects of steatorrhea, to be presented in this study.

Objective:

To evaluate incidence of Steatorrhea and its symptomatology and % EWL after OAGB.

Method:

70 patients, mean BMI 43.4kg/m2, mean age 44 years, male to female ratio of 30 to 40 respectively ,who underwent OAGB from year 2015 to 2017 were prospectively evaluated between 2 to 5 years postoperatively, with questions regarding malodorous stools, oily spotting, stool urgency or incontinence, challenge in interpersonal relationship (IPR) due to steatorrhea and Vitamin D and serum protein level.

Results:

The mean % EWL at 2 to 5years was 79.5%. Malodorous stools 49/70 (70%), oily spotting in 7/70 (10%), Stool Urgency and incontinence in 7/70 (10%), Challenge in IPR in 14/70 (20%) patients was seen. Vitamin D at baseline was low with a mean of 29ng/mL and remained lower with a mean of 25ng/mL at 5 years. Serum Protein levels at baseline and at 5 years were 6.9g/dL and 6.2g/dL respectively. Patients were treated with dietary modifications, probiotics and antibiotics.

Conclusion:

OAGB induces satisfactory weight loss at 5 years.However, quality of life may be affected due to different symptoms related due to steatorrhea. Dietary modification is essential to overcome the challenge of steatorrhea and to convert it into a blessing of sustained weight loss.

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O-380

SUTURE PATTERN IMPACT ON EFFICACY OF ENDOSCOPIC SLEEVE GASTROPLASTY (ESG-APOLLO®) AS OBESITY TREATMENT.

Endoscopic and percutaneous interventional procedure

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[1]Gastroenterology, Clínica Londres, Madrid, Spain; [2]GI- Bariatric Endoscopy Unit, Dexeus University Hospital, Barcelona, Spain; [3]GI Department, Endovitta Institute, Sao Paulo, Brazil; [4]Nutrition, Dexeus University Hospital, Barcelona, Spain; [5]Dexeus University Hospital, Barcelona, Spain.

Introduction:
Endoscopy Sleeve Gastroplasty (ESG-Apollo®) has proven to be effective, safe and technically feasible for obesity treatment. Different suture patterns and various number of sutures and stitches applied have been described. To date, there is no study comparing the impact of suture pattern on ESG efficacy.

Objective:
We aim to study the impact of three different suture patterns on ESG- Apollo® efficacy.

Methods:
Descriptive, comparative study with prospective data collection of obese patients undergoing ESG-Apollo® for 5 years in two collaborative hospitals. We compared three different suture patterns (transverse bilinear: TBp, longitudinal "z": Lp and transverse monolinear: TMp), number of sutures (4 to 7) and number of stitches (<25, 25-30 and >30) applied and evaluated them based on %TBWL and %EWL.

Results:
88 patients (mean age 46±12 years, 69% women) were included. Average basal BMI was 39.40 kg/m² ±4.69kg/m² (r=29.6-52.0kg/m²). At 1 year, 17.36 %TBWL ±6.09percentage was obtained (%EWL 46.41 ±20.6%) with TBWL >10% in 95.5% of patients (EWL>25% in 94.3% of patients). Differentiating between Lp, TBp and TMp patterns, mean %EWL of 59.8±18.9%, 41.6±21.9% and 45.4±14.9% was respectively obtained (p=0.023), but there were no differences in %TBWL. We did not see differences in %TBWL or %EWL depending on number of sutures (mean 5.3±0.85) or number of stitches (mean 27.4±6.5) applied. There was resolution in 43/72 (60%) of the evaluated comorbidities. There were no significant adverse effects in any pattern.

Conclusions:
All three analyzed patterns of ESG-Apollo® are safe and effective at 12 months of follow–up, regardless of the number of sutures and stitches applied. However, Lp seems to be related to a discrete higher efficacy on %EWL.

TABLE 1. GENERAL DEMOGRAPHIC, EFFICACY AND SAFETY DATA

DATA	BASELINE N=88	FINAL (12 MONTHS) N=88
AGE, mean±SD (range) GENDER Male, n (%) Female, n (%)	46.1±12.3 (18-74) 27 (30.7%) 61 (69.3%)	
WEIGHT (kg) WL (kg) BMI (kg/m²) BMIL (kg/m²) TBWL (%) TBWL>10% EWL (%) EWL>25%	110.71±17.9 39.4±4.69	91.5±16.9 19.2±6.34 33.3±5.21 6.1±0.52 17.36±6.09% 84/88 (95.5%) 46.41±20.6% 83/88 (94.3%)
COMORBIDITIES/Affected patients HTA DLP T2DM SOAS ARTHROPATHY TOTAL	34 16 24 11 8 13 72	N (% Reduction) =18 (47.1%) 8 (50%) 10 (58%) 6 (45.5%) 3 (62.5%) 2 (84.5%) 29 (60% reduction)
ADVERSE EVENTS MAJORS MINORS CLAVIEN: Grade I		 0 2/88 (2.2%)* 100%

*Pain/dysphagia self-limiting in 48h

TABLE 2. Baseline and 12 months anthropometric data according to the Suture Pattern

Suture pattern Patients	TBp N=41	Lp N=23	TMp N=24	p. overall
Gender:				0.313
Male, n (±SD)	10 (38.5%)	2 (14.3%)	5 (33.3%)	
Female n (±SD)	16 (61.5%)	12 (85.7%)	10 (66.7%)	
Age years (±SD)	44.6 (13.4)	50.8 (11.3)	44.2 (10.5)	0.253
W_0 (kg±SD)	115 (17.4)	103 (20.5)	110 (14.8)	0.149
BMI_0 (kg/m²±SD)	41.4 (5.09)	37.0 (3.88)	38.2 (3.19)	0.008
W_{12} (kg±SD)	94.1 ±17.6	84.0 ±18.3	93.9 ±12.9	0.163
BMI_{12} (kg/m²±SD)	35.0 ±5.84	30.7 ±4.00	33.1 ± 2.7)	0.095
WL_{12} (kg±SD)	20.8 ±6.45	19.6 ±7.28	16.4 ±4.28	0.096
$\%EWL_{12}$ (%±SD)	41.6 ±21.9	59.8 ±18.9	45.4 ±14.9	0.023
EWL_{12}:				0.398
<=25% n (%)	3 (7.3%)	0 (0.00%)	2 (8.3%)	
>25% n (%)	38 (92.7%)	23 (100%)	22 (91.7%)	
$\%TBWL_{12}$ (%±SD)	18.3 ±6.03	18.2 ±7.97	14.9 ±3.23	0.192
$TBWL_{12}$:				1.000
<=10% n (%)	2 (4.9%)	0 (0.00%)	2 (8.3%)	
>10% n (%)	39 (95.1%)	23 (100%)	22 (91.7%)	

TBp: transverse bilinear pattern, Lp: longitudinal pattern, TMp: transverse monolinear pattern
Data expressed at: $_0$: basal, $_{12}$: at 12 months

O-381

SWALLOWABLE INTRAGASTRIC BALLON FOR THE TREATMENT OF OBESITY – A BRAZILIAN CASE SERIES

Endoscopic and percutaneous interventional procedures

E. Grecco[1], T. Ferreira Souza[2], C. Buitrago Galindo[1], N. Zundel [3], M. Dos Passos Galvão Neto[1].

[1]Bariatric Endoscopy, Endovitta Institute, São Paulo, Brazil; [2]Bariatric Surgery, Endovitta Institute, São Paulo, Brazil; [3]Vice-Chairman Department of Surgery, Florida International University, North Miami, United States.

Introduction:

Obesity is a complex multifactorial disease that affects populations worldwide. In Brazil, the prevalence of obesity is a major public health problem. Intra-Gastric Balloon (IGB) is commonly used as a non-operative strategy among bariatric patients, with liquid balloons being highly accessible. However, a new type of deglutible IGB has been approved. The Ellipse intragastric balloon is a new swallowable balloon (SIGB) that does not require endoscopy at insertion or removal.

Objective:

The aim of this study is to investigate the safety and efficiency profile of SIGB in 10 Brazilian patients submitted to the procedure for the treatment of obesity.

Methods:

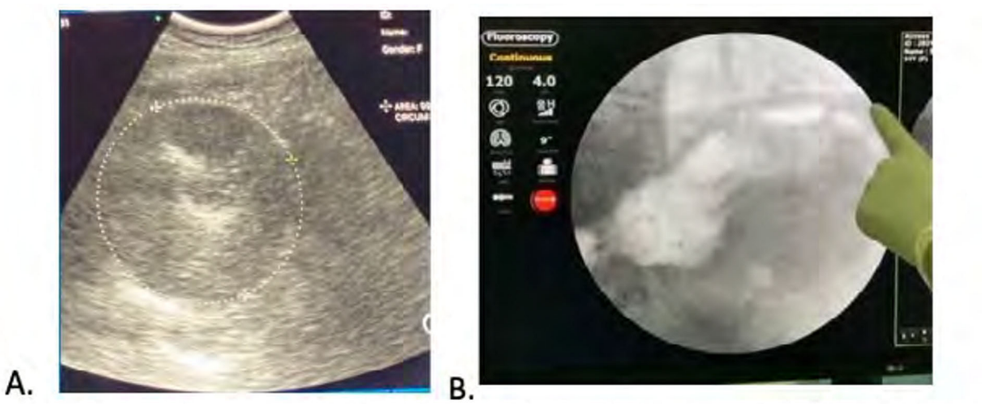
Observational retrospective study on our initial experience with a consecutive group of ten patients who underwent the insertion of SIGB in the period between October-2020 and January 2021. Radioscopic and ultrasonographic imaging was obtained after implantation to confirm adequate balloon location, in all cases. The patients were followed up to assess pain, nausea, and vomiting as well as weight loss, three months after the initial procedure

Results:

A 3 months follow-up was obtained on 100% of patients. 80% were men and 20% women between age 24 and 63. Mean weight and BMI before the procedure 95 kg and 36 kg/m2, respectively. No immediate or late complications as bleeding, bowel obstruction, ulcer, perforation or hiperinsuflation were reported. All of the patients tolerated SIGB, no early extractions were needed. 80% reported mild abdominal pain on the first seven days after procedure. 30% reported nausea and vomiting. 10% referred mild regurgitation and pyrosis. Most important late symptoms were abdominal pain (40%), nausea (40%) and pyrosis (20%). Total weight loss % (TWL%) 12% at 3 months.

Conclusion:

SIGB seems to be an effective, safe, and accessible non-surgical method for weight loss and obesity treatment specially for patients with contraindication to anesthesia or no access to upper gastrointestinal endoscopy since radioscopic or ultrasonographic imaging is easily obtained to confirm balloon position, at any moment during the treatment.



A,B. Ultrasonographic and radioscopic confirmation of SIGB position.

O-382

SWALLOWABLE INTRAGASTRIC BALLOON PLACEMENT AND FOLLOW-UP USING ULTRASONOGRAPHIC IMAGING – CASE REPORT

Endoscopic and percutaneous interventional procedures

T. Ferreira de Souza[1], M. Dos Passos Galvão Neto[1], H. Pena Montesinos[2], C. Buitrago Galindo[1], E. Grecco[1].

[1]Bariatric Endoscopy, Endovitta Institute, São Paulo, Brazil; [2]Gastrointestinal Endoscopy, ABC Faculty of Medicine, Santo André - Brazil, São Paulo, Brazil.

Introduction:

Obesity is a complex multifactorial disease that affects populations worldwide. In Brazil, the prevalence of obesity is a major public health problem. Intra-Gastric Balloon (IGB) is commonly used as a non-operative strategy among bariatric patients, with liquid balloons being highly accessible. However, a new type of swallowable IGB (SIGB) has been approved. The Elipse intragastric balloon – Allurion Technologies does not require endoscopy at insertion or removal. Ultrasound is currently the method of choice for placement confirmation, follow-up and early detection of complications as it is a low cost easy-to-handle method, that can be reproducible and does not expose the patient to ionizing radiation.

Objective:

Based on a case report, the authors discuss the importance of ultrasound imaging as the method of choice for placement confirmation and follow-up after SIGB implantation.

Method:

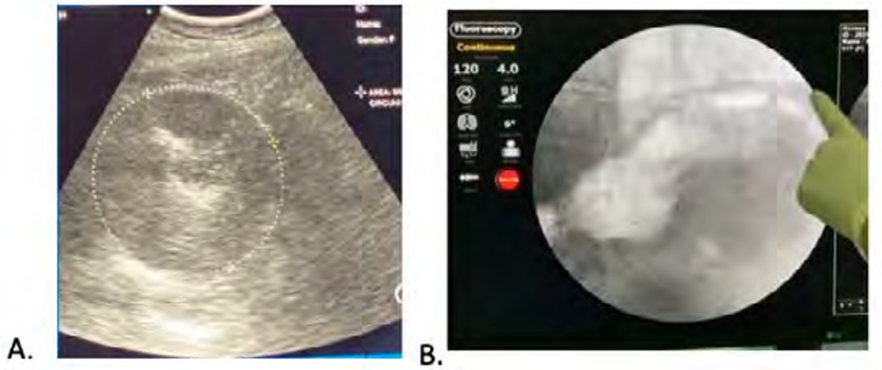
52-year-old male with initial Body Mass Index (BMI) of 50kg/m2 without previous gastrointestinal surgery, submitted to SIGB implantation under radioscopic and ultrasound imaging.

Results:

30 days and five months follow-up was obtained. BMI was 46,29 kg/m2 and 39,50kg/m2 respectively, with total weight loss of 20%. No immediate or late complications as bleeding, bowel obstruction, ulcer, perforation or hiperinsuflation were reported. At every consultation, abdominal ultrasound imaging was performed by the use of a Wireless Portable Linear Probe, showing adequate positioning of the SIGB in gastric fundus.

Conclusion:

SIGB seems to be an effective, safe, and accessible non-surgical method for weight loss and obesity treatment specially for patients with contraindication to anesthesia or no access to upper gastrointestinal endoscopy since ultrasonographic imaging is easily obtained to confirm balloon position, at any moment during the treatment.



A,B. Ultrasonographic and radioscopic confirmation of SIGB position.

O-383

SYSTEMATIC REVIEW OF OUTCOMES OF SINGLE-ANASTOMOSIS DUODENO-ILEAL BYPASS WITH SLEEVE GASTRECTOMY AND SINGLE-ANASTOMOSIS SLEEVE ILEAL BYPASS PROCEDURES FOR BARIATRIC PATIENTS

Emergent technology, new non standard and bariatric surgery

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Background/Introduction:

Single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) and single-anastomosis sleeve ileal (SASI) bypass are emerging bariatric surgical techniques.

Objectives:

This systematic review aimed to evaluate the current literature on SADI-S and SASI procedures in terms of weight loss outcomes, complications, and improvement in co-morbidities.

Methods:

A systematic literature search of electronic databases (MEDLINE, Embase and Google Scholar) was performed in April 2022 for clinical trials, prospective or retrospective studies that reported outcomes of the SADI-S and SASI procedures.

Results:

The number of studies meeting the inclusion criteria was 32 for SADI-S and 11 for SASI, including 3255 and 1293 patients, respectively. The mean postoperative BMI, percentage total weight loss and percentage excess weight loss was comparable for both SADI-S and SASI at 12 months: 29.7 kg/m2 vs 32.2 kg/m2, 34.9% vs 33.9%, and 79.6% vs 73.7%. The complication rate was 8.5% for SADI-S and 11.8% for SASI. Mortality was a rare complication of both procedures: 0.20% and 0.04% for SADI-S and SASI, respectively. Patients with diabetes mellitus who underwent the procedures experienced improvement or resolution in 88.6% of cases for SADI-S and 95.5% for SASI at 12 months.

Conclusion:

SADI-S and SASI provide effective weight loss outcomes for bariatric patients and are associated with low rates of complications and mortality. The two procedures hold promise as alternative bariatric operations, but clinical trials will be needed to establish their long-term effectiveness and safety.

O-384

TESTOSTERONE CHANGES OVER THE SHORT TERM IN MEN WITH OBESITY AND TYPE 2 DIABETES AFTER SLEEVE GASTRECTOMY WITH TRANSIT BIPARTITION

Investigational procedures

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Background:

Metabolic/bariatric surgery (MBS) has been shown to increase testosterone in males with obesity. This study investigated the effect of the novel MBS procedure–sleeve gastrectomy with transit bipartition (SG-TB)–on serum total testosterone and metabolic variable changes in men with obesity and type 2 diabetes mellitus (T2D).

Methods:

In a prospective single-center cohort study, laboratory samples were analyzed preoperatively and at 6 months following SG-TB in patients with a body mass index (BMI) ≥30 kg/m2. Changes in metabolic parameters and testosterone were evaluated.

Results:

Between July 2018 and March 2019, 166 patients with a mean baseline BMI of 34.9±3.8 kg/m2 (mean age 51.5±9.3 years), A1C 9.5±1.3%, and testosterone 3.1±1.3 underwent SG-TB. At 6-month follow-up, mean excess BMI loss was 70.2±24.3%; TWL, 18.6±5.8%; A1C, 6.6±1.1% ($p<0.001$); and testosterone, 4.5±1.5 ($p<0.001$).

Conclusion:

In the early term following SG-TB, more than any other factor assessed, BMI loss was found to be a significant driver of improvement in testosterone levels. Regardless of preoperative obesity classification, patients with initially low testosterone achieved significantly increased testosterone levels at 6-month follow-up.

O-385

THE 30 MOST FREQUENT CONCERNS ABOUT BARIATRIC AND METABOLIC SURGERY ON INSTAGRAM. IBERO-AMERICAN REGION AND UNITED STATES

Basic science and research in bariatric surgery

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Background:

The exponential growth of the use of social networks has turned them into vital tool when investigating topics about bariatric and metabolic surgery. Especially in the United States and Ibero-American region, Instagram being one of the most used. The analysis of data generated in social networks allows surgeons users, a greater and better interaction and marketing, thus optimizing their results.

Objectives:

To determine the 30 most frequent concerns regarding bariatric surgery in Instagram users from the Ibero-American region and the United States of America. Methods: Exploratory study in which data was collected through instagram over a period of 4 months, reviewing 20% of the publications of 100 profiles of bariatric and metabolic surgeons with more than 1000 followers from the Ibero-American region and the United States.

Results:

Over 65000 comments were analyzed, finding that the most common concern was regarding the costs of bariatric procedures, corresponding to 36.64%. There are also concerns about the requirements for surgery, the location of the surgeon, what the surgery consists of, complications, hair loss, use of vitamins and estimation of the total weight to lose.

Conclusions:

Bariatric surgery is increasingly becoming a topic of investigation by users of Instagram. The concerns that arise from them can direct the content in each profile of bariatric surgeons to improve interaction with users, promote personal and professional relationships and increase the surgery marketing. However, more studies are required to understand if surgeons follow international guidelines regarding the correct use of social networks.

1. COMMENTARY DISTRIBUTION TABLE

COMMENTARIES	AMOUNT	%
Total	65088	100
Possitive comments	49032	75.3
Negative comments	1809	2.8
Concerns	7098	10.9
Irrelevant comments	2933	4.5
Mentions	4212	6.5

SOURCE: own elaboration 2020.

2. DISTRIBUTION OF QUESTIONS TABLE.

#	CONCERNS	TOTAL	%
1	What is the price of surgery and consultation?	3280	36.64
2	General request for information. Without specifying what.	1528	17.07
3	What requirements or am I a candidate for surgery?	885	9.89
4	Where the surgeon is located?	627	7.00
5	How do you request an appointment, schedules?	530	5.92
6	What does it consist? Technique, duration, material.	362	4.04
7	Donations, aid or financing request	171	1.91
8	Does insurance cover it?	160	1.79
9	If I have "X disease, can I have surgery?	155	1.73
10	What is the difference between Sleeve or Bypass and which is better?	146	1.63
11	What will the diet be like?	143	1.60
12	What risks or complications are there?	106	1.18
13	What will happen with the excess of skin remaining?	102	1.14
14	How long will i recover and how long will it take?	94	1.05
15	Can I have surgery again if I already have a sleeve or bypass?	88	0.98
16	Can the surgery be lost?	77	0.86
17	How much weight am I going to lose and in how long?	75	0.84
18	Do you perform other non-bariatric procedures?	72	0.80
19	Do you have Online Consultation?	66	0.74
20	Finding out for an acquaintance or family	61	0.68
21	Should take vitamins for life?	56	0.63
22	Will hair loss occur?	36	0.40
23	What is the difference between bariatric and metabolic surgery?	36	0.40
24	Can you recommend a colleague somewhere else?	22	0.25
25	Relationship of bariatric surgery with pregnancy	22	0.25
26	What non-surgical procedures for weight loss are there?	11	0.12
27	Scientific questions.	11	0.12
28	What preoperative should I do?	10	0.11
29	Do you have a multidisciplinary team?	10	0.11
30	What type of anesthesia do they use?	10	0.11
	TOTAL	8952	100.00

FUENTE: own elaboration 2020.

O-386

THE ASSOCIATION BETWEEN BARIATRIC SURGERY AND BREAST CANCER OUTCOMES: A MATCHED COHORT STUDY

Bariatric surgery and cancer

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Background/Introduction:

Excess adiposity is associated with increased breast cancer risk in women. Bariatric surgery is the most effective method of substantial weight loss however the effects on subsequent breast cancer risk in women with obesity is unknown.

Objectives:

This study aimed to examine the breast-cancer incidence and related specific outcomes in women with obesity undergoing bariatric surgery or medical management for weight loss in a province-wide registry in Canada.

Methods:

This was a population-based matched cohort study of breast surgery outcomes that utilized linked clinical databases in Ontario, Canada. Women with obesity who underwent bariatric surgery were matched with a propensity score to nonsurgical controls for age and breast cancer screening history in a 1:1 fashion. The primary and main secondary outcomes were the incidence of primary breast cancer after 1-year and 2-year washout periods, respectively. Additional secondary outcomes included hormone status, cancer stage, and treatments undertaken. Categorical variables were assessed using the Chi-Square test. Time varying Cox proportional hazard models that accounted for screening during the follow-up time were used to model cancer incidence.

Results:

In total, 25,448 (n=12,724 in each group) women were included in analysis. Age at index date was 45.09 (SD 10.98) in the control group and 45.09 (SD 10.95) in the surgical group. The primary outcome occurred in 1.09% (139/12,724) of the controls and 0.79% (101/12,724) of the surgery group (adjusted hazard ratio [HR], 0.811 [95% CI 0.690-0.954]; P=0.01). This association was maintained at 2-years and when including 1-year and 2-year washout periods. Figure 1 demonstrates the Kaplan-Meier cumulative incidence curve for breast cancer incidence with a 1-year washout. Women in the surgical cohort who were diagnosed with breast cancer were more likely than nonsurgical controls to have low grade tumors and less likely to have high grade tumors (overall p=0.017). No association was found for hormone receptor status of tumors though women in the surgical cohort were more likely than those in the nonsurgical to be diagnosed with her2neu negative tumors (p=0.028).

Conclusion:

Bariatric surgery was associated with a lower incidence of breast cancer and lower tumor grade in women with obesity. Further evaluation of outcomes including mortality are required.

O-387

THE ASSOCIATION BETWEEN INSECURE ATTACHMENT AND FOOD ADDICTION IS MEDIATED BY ALEXITHYMIA SEVERITY: A CROSS-SECTIONAL STUDY IN A LARGE SAMPLE OF BARIATRIC CANDIDATES

Integrated health

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Background:

In bariatric surgery candidates, food addiction (FA) was reported with a prevalence rate of 16.5 %.

Objective:

Aim of this study was to investigate the relationship between attachment style and FA and to test the possible mediating effect of alexithymia. The sample consisted of 770 bariatric surgery candidates (336 women and 234 men).

Methods:

A psychosocial behavioral examination and the following psychometrics were administered: the Attachment Style Questionnaire (ASQ), the Toronto Alexithymia Scale (TAS-20) and the Yale Food Addiction Scale (YFAS).

Results:

Mediational models showed ($R2 = 0.25$; $F11; 758 = 22.45$; $p < 0.001$) that higher avoidant attachment was associated to higher FA symptoms ($\beta = 0.04$; $p < 0.001$). Moreover, the effect of avoidant attachment on alexithymia severity was positive and significant ($\beta = 0.49$; $p < 0.001$). In turn, TAS total score was positively related to FA symptoms ($\beta = 0.04$; $p < 0.001$). The indirect effect was also significant ($\beta = 0.019$; SE= 0.003 $p < 0.001$ [0.013; 0.025]), confirming our mediation hypothesis. Lastly, the direct effect of avoidant attachment on FA symptoms was significant ($\beta = 0.02$; $p < 0.001$) suggesting that the association between this attachment pattern on FA symptoms was direct and mediated by alexithymia symptoms. Similar result was observed for the anxious attachment. The total effect ($R2 = 0.27$; $F11; 758 = 25.31$; $p < 0.001$) indicates that higher anxious attachment was associated to higher FA symptoms ($\beta = 0.04$; $p < 0.001$). Moreover, the effect of anxious attachment on alexithymia severity was positive and significant ($\beta = 0.47$; $p < 0.001$).

Conclusion:

TAS total score was positively related to FA symptoms ($\beta = 0.03$; $p < 0.001$). The indirect effect was also significant ($\beta = 0.016$; SE= 0.003 $p < 0.001$ [0.011; 0.022]), confirming, again, our mediation hypothesis. Lastly, the direct effect of anxious attachment on FA symptoms was significant ($\beta = 0.13$; $p < 0.001$) suggesting that also the association between this attachment pattern on FA symptoms was direct and mediated by alexithymia symptoms. The consequences of our results in terms of comprehension of FA and therapeutic approach will be discussed.

O-388

THE BENEFITS OF A BANDED ROUX-EN-Y GASTRIC BYPASS OVER A NON-BANDED ROUX-EN-Y GASTRIC BYPASS IN MORBIDLY OBESE PATIENTS: A MULTICENTER STUDY

Banded procedures

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Background:

While Roux-en-Y gastric bypass (RYGB) is considered the most effective treatment for obesity with the best long-term results, even RYGB does not always prevent weight regain. A method to improve the results of RYGB and minimize the chance of weight regain is performing a banded RYGB. Furthermore, more weight loss might also be related to an increase in remission of comorbidities.

Objectives:

In this study, we aim to evaluate the effect of banded and non-banded RYGB on long-term weight loss results and comorbidities.

Methods:

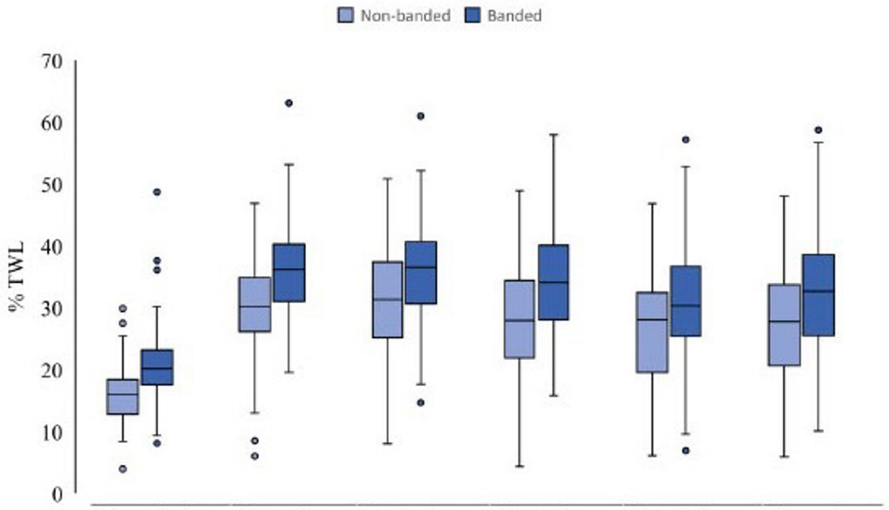
A retrospective data study was performed. Patients who underwent a primary RYGB between July 2013 and December 2014 and followed a 5-year follow-up program in our clinic were included. Complications, comorbidities and quality of life were assessed during screening and follow-up. A matched cohort of non-banded RYGB patients was obtained from a different clinic location with the same 5-year follow-up program. After testing for normality, differences were analyzed using a two-tailed student's t-test or a Mann-Whitney-U test, and the chi-square test or Fisher exact test.

Results:

The study included 375 patients with a mean weight and Body Mass Index (BMI) of 128.9 (±21.2) kilograms (kg) and 44.50 (±5.72) kilograms per square meter (kg/m2). 184 patients underwent an RYGB and 191 underwent a banded RYGB. During all follow-up moments (3 months, 1-5 years) % Total weight loss was superior in the banded group (32.6% vs 27.6% at 5 years post-operative, p= <0.001). Complication rates in both study groups were similar. Comorbidity improvement or remission did not significantly differ between the two groups (p= 0.14-1.00). Quality of life did also not significantly differ between the two groups at all follow-up moments.

Conclusion:

Banded RYGB does show superior weight loss compared to a non-banded RYGB. No effect on comorbidity remission was observed. Since complication rates and quality of life are similar, while weight loss is superior, we recommend performing a banded RYGB over non-banded RYGB.



	3 months*	1 year*	2 years*	3 years*	4 years*	5 years*
Non-banded	141	150	137	103	80	135
Banded	161	145	153	105	76	161
Missing	73	80	85	167	219	79
P value	< .001	< .001	< .001	< .001	.027	< .001

O-389

THE BENEFITS OF VIRTUAL BARIATRIC SUPPORT

Integrated health

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Background/Introduction:

Support groups are important venues for postoperative bariatric education, motivation, and social/relational interactions. Due to the COVID-19-19 pandemic, in-person bariatric support group meetings in 2020 at our bariatric center were replaced by online virtual sessions.

Objectives:

The objectives of our study were 1) to assess the effects of online vs. in-person support group on patient attendance and 2) to determine patient preference for online vs. in-person support group interactions.

Methods:

During 2020, support group meetings were performed virtual from April to December. Attendance at virtual meetings were compared to in-person attendance during the same time span of previous years (2015 to 2019). At the end of 2020, patients were surveyed as to their likes or dislikes of virtual vs. in-person support group meetings.

Results:

From April through December 2020, a total of 577 patients attended support group meetings virtually, as compared to an average of 397 who had attended these meetings in-person during this same monthly span for the years 2015-19. Virtual attendance in 2020 was 47% higher than for the in-person meetings over the previous 5 years. Monthly attendance at the virtual meetings were more consistent than for the previous in-person sessions. Most patients who completed the survey believed that the online virtual meetings were beneficial in providing motivation, education and social support. When patients who had attended both virtual and in-person meetings were queried as to which of the venues they preferred, 31% selected virtual, 24% chose in-person and 46% indicated a preference for both.

Conclusions:

Support group attendance increased by nearly 50% when meetings were held virtually online. For the future, however, many patients hope when the pandemic has ended that face-to-face meetings will resume with both venues available.

O-390

THE BURDEN OF BARIATRIC SURGERY MEDICAL TOURISM ON THE IRISH HEALTH SERVICE

Bariatric surgery tourism

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Background/Introduction:

Waiting lists for bariatric surgery in Ireland are long resulting in many patients seeking surgery abroad. With no postoperative follow-up in place upon their return, patients rely on the public health service for management of postoperative issues, placing further burden on our overstretched public healthcare service. We reviewed our experience of patients presenting to the Irish National Bariatric Surgical Centre with complications after bariatric surgery performed abroad.

Objective:

To record each attendance, admission and intervention required by the postoperative bariatric patient following procedures performed abroad and quantify the economic impact on the Irish health care service.

Methods:

A single-centre retrospective analysis was performed of patients seen from January 2016-December 2020 who had undergone primary surgery outside Ireland. Patient demographic and clinical data were recorded. Costs were calculated by the hospital in-patient enquiry national database.

Results:

Over 5-years, 87 patients (74 female) presented with complications related to bariatric procedures abroad. Most presentations (n=47, 54%) related to adjustable gastric bands, 18 (14%) gastric bypass, 18 (14%) sleeve gastrectomy, and 4 (3%) intra-gastric balloons. Patients travelled to one of 17 international locations for surgery, with the United Kingdom and Belgium being the most popular destinations (22 and 18 patients respectively). Eleven patients required endoscopic management of their surgical complication, 11 had drainage procedures in interventional radiology and 54 required surgical management of which 7 patients had emergency surgery and 36 had day-case procedures. The average stay for admitted patients was 15.4 days occupying a total number of 650 bed-days. The cost relating to care of these patients over a five-year period was in excess of €705,148.

Conclusion:

A significant burden is placed on the Irish health care system by patients undergoing bariatric surgery abroad. The resources required for provision of care to this group of patients will need to be addressed.

O-391

THE CHOICE OF GASTRIC BYPASS OR SLEEVE GASTRECTOMY FOR PATIENTS STRATIFIED BY DIABETES DURATION AND BODY MASS INDEX (BMI) LEVEL: RESULTS FROM A NATIONAL REGISTRY AND META-ANALYSIS

Type 2 diabetes and metabolic surgery

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Objective:

To determine whether sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB) should be the optimal choice in patients stratified by diabetes duration and body mass index (BMI) level.

Methods:

Classification tree analysis was performed to identify the influential factors for surgical procedure selection in real-setting. Meta-analyses stratified by influential factors were conducted to compare the complete diabetes remission rates between SG and RYGB. The cost-effectiveness analysis was performed when results from meta-analysis remain uncertain.

Results:

Among 3,198 bariatric procedures in China, 824 (73%) SGs and 191 (17%) RYGBs were performed in patients with T2DM. Diabetes duration with a cutoff value of 5 years and BMI level with 35.5 kg/m2 were identified as the influential factors. For patients with diabetes duration > 5 years, RYGB showed a significant higher complete diabetes remission rate than SG at 1 year: 0.52 (95% confidence interval (CI): 0.46-0.58) versus 0.36 (95% CI: 0.30-0.42). For patients with diabetes duration ≤ 5 years and BMI ≥ 35.5 kg/m2, there was no significant difference between 2 procedures: 0.57 (95% CI: 0.43-0.71) for SG versus 0.66 (95% CI: 0.62-0.70) for RYGB. The cost-effectiveness ratios of SG and RYGB were 244.58 and 276.97 dollars per QALY, respectively.

Conclusions:

For patients with diabetes duration > 5 years, RYGB was the optimal choice with regard to achieving complete diabetes remission at 1 year after surgery. However, for patients with diabetes duration ≤ 5 years and BMI ≥ 35.5 kg/m2, SG appeared to provide a cost-effective choice.

Key points:

- Diabetes duration with a cutoff value of 5 years and BMI level with 35.5 kg/m2 were identified as the influential factors for surgical procedure selection in real-setting.
- For patients with diabetes duration > 5 years, RYGB was the optimal choice with regard to achieving complete diabetes remission at 1 year after surgery.
- However, for patients with diabetes duration ≤ 5 years and BMI ≥ 35.5 kg/m2, SG appeared to provide a cost-effective choice.
- There was no differences in major complications (bleeding, leakage, obstruction, stricture, and ulceration) between RYGB and SG.

O-392

THE CORRELATION BETWEEN BITE SCORE AND WEIGHT OUTCOMES IN ONE ANASTOMOSIS GASTRIC BYPASS PATIENTS – AN UPDATE WITH 24-MONTH POSTOPERATIVE RESULTS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

The Bulimic Investigatory Test, Edinburgh (BITE) self-report questionnaire is used to assess the risk of bulimic and binge eating habits in bariatric patients preoperatively. There is no reported study looking at relationship between preoperative BITE scoring and weight loss outcomes after One anastomosis gastric bypass (OAGB) operation This study aimed to investigate the correlation between preoperative BITE scores and weight loss at 3, 6, 12, 18 and 24 months follow up in patients with OAGB.

Method:

Consecutive patients who received OAGB/MGB between 2016-2018 completed the BITE questionnaire at initial assessment and were included in this prospective study. Baseline demographics were measured. Excess body weight loss (%EBWL) and total weight loss (%TWL) were calculated on the day of surgery and at 3, 6, 12, 18 and 24 months follow up. Statistical test including one-way ANOVA were performed.

Results:

120 patients (n=87 females) were eligible with an average age of 43 (± 10.84) years. The average weight and BMI at pre-op were 130 ± 23.60kg and 47 ± 7.35kg/m2, respectively. 32 patients were diabetic. Total 21.67% (n=26) had high BITE scores (≥20), 44.17% (n=53) had medium BITE scores (10-19), and 34.17% (n=41) had low BITE scores (≤9). Low and Medium BITE groups had similar outcomes at each follow up. The low BITE group had greater %EBWL and %TWL compared to high BITE group across all the follow ups, however this difference was not significant. There were no reoperations or mortality.

Conclusion:

This is the first reported study looking at relationship between OAGB and BITE scoring. OAGB results in good weight loss at 3, 6 and 12 months postoperatively independent of BITE scores. There was no significant difference between pre-operative binge eating behaviours on post-operative weight outcomes. To extend the study, further research between the effect of pre-operative psychological input on weight outcomes could be investigated. Going forward, comparative study in patients with RYGB and sleeve gastrectomy would be recommended.

O-393

THE DEVELOPMENT OF ADJUNCT BEHAVIOURAL WEIGHT MANAGEMENT INTERVENTIONS TO BARIATRIC SURGERY: THE INTER-CHANGE PROGRAM

Behavioral health and bariatric surgery - Pre and post-op challenges

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Background:

Bariatric surgery (BS) is the primary treatment for patients with severe obesity, though up to 20% of patients experience weight regain and other negative outcomes within the first post-operative year. This is partially because clinicians lack solid evidence for efficacious tailored adjunct behavioural weight management (BWM) interventions.

Objectives:

The INTER-Change program aims to use structured frameworks and theories to identify the optimal structure, content, and delivery mode of adjunct BWM interventions to enhance long-term post-surgical outcomes.

Methods:

Using the ORBIT and integrated knowledge translation (iKT) frameworks, INTER-Change includes 5 main stages : 1) A living systematic review and meta-analysis of adjunct BWM trials; 2) Stakeholder focus groups, including patients, healthcare professionals (HCPs) and health administrators to explore their perspectives on different aspects of potential interventions; 3) A patient-generated survey of potential adjunct BWM interventions for BS; 4) A multi stakeholder eDelphi process to rationalise and prioritise this information into intervention components and delivery structures; and 5) An international consensus meeting with key stakeholders to construct final intervention and testing protocols.

Results:

The systematic review revealed that post-surgical BWM interventions provided greater long-term weight benefits compared to other time points. Initial key themes from the stakeholder focus groups included: The need for involvement of more and diverse HCPs in bariatric care; The importance of non-weight related goals; The need for more pragmatic interventions to help patients implement changes in their daily lives; and the post-surgical period as being the most appropriate time for BMW interventions. The patient survey is designed to provide patient generated feedback and expectations for interventions. The eDelphi process and the international consensus meeting are the final stages that will integrate the main findings to build a practical road map for the BWM intervention.

Conclusion:

This comprehensive structured program will provide critical knowledge to answer a persistent health challenge of how to enhance long-term behaviour change in patients undergoing BS. It builds on previous literature and perspectives from multiple stakeholders to propose effective and implementable adjunct BWM interventions, increasing the likelihood of real-world clinical impact.

O-394

THE EFFECT OF BARIATRIC SURGERY ON FEMALE SEXUAL FUNCTION: A CROSS-SECTIONAL STUDY

Fertility, pregnancy, nutrition and bariatric surgery

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[1]2nd Department of Obstetrics and Gynecology, Medical University of Warsaw, Warsaw, Poland; [2]Paweł Bartnik - Indywidualna Praktyka Lekarska, Warsaw, Poland; [3]Department of General Surgery, Warsaw, Poland.

Introduction:

The generally negative impact of obesity on female sexuality is well-established. The possible association between bariatric surgery, weight loss, and female sexuality is much less described.

Objectives:

The aim of the study was to analyze the possible association between bariatric surgery and female sexual function.

Methods:

It was a cross-sectional study of 623 patients who underwent bariatric surgery between 1999 and 2017. Patients were recruited on the basis of medical records from the Military Institute of Medicine in Warsaw. Patients were invited to complete a questionnaire which consisted of self-designed demographic questions and Female Sexual Function Index (FSFI).

Results:

The total FSFI score, as well as each subdomain, improved significantly after surgery. The prevalence of low score (< 26.55) was significantly lower after the surgery in comparison to the status prior to the procedure (36.3% vs. 57.5%; $p < .001$). There were no differences regarding the number of sexually active patients before and after the surgery (75.3% vs. 76.1%; $p < .63$). There were observed statistically significant, positive correlations between BMI decrease and each subdomain of the FSFI score as well as the total score.

Conclusion:

Weight loss surgery seems to decrease the risk of sexual dysfunction presence and the advantages are associated with the total BMI loss.

O-395

THE EFFECT OF LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS VS SLEEVE GASTRECTOMY ON SERUM CHOLESTEROL 12 MONTHS AFTER SURGERY - A PROSPECTIVE COHORT STUDY

Cardiovascular risk and bariatric surgery

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Background:

Obesity is associated with dyslipidaemia and raised serum total cholesterol (STC) that predisposes to cardiovascular disease. Although bariatric surgery has been shown to be effective against many obesity related comorbidities, the impact on STC is conflicting.

Objectives:

To determine the effect of laparoscopic Roux-en-Y gastric bypass (LRYGB) vs laparoscopic sleeve gastrectomy (LSG) on STC.

Method:

All patients with pre-operative STC≥5.1 mmol/l with or without medication who underwent LRYGB or LSG in our institute in 2018-19 were included. Follow up was for 12months. Primary outcome was absolute reduction in STC. Secondary outcome was complete resolution (STC<5.1mmol/l with or without medication) or partial resolution (improvement of STC from baseline but >5.1mmol/l with or without medication). Covariates included age, gender, comorbidities (Type II DM, OSA, Arthritis, Depression, Hypertension) and percentage excess weight loss (%EWL). Continuous variables are displayed as mean, together with the standard deviation (SD). Comparisons were made using Chi square and ANOVA where relevant. Significance p<0.05.

Results:

106 patients were included (LRYGB n=74 (70%) vs LSG n=32 (30%)), with no significant difference in mean age (53.0 (7.3) vs 52.1 (11.2)), pre-operative weight (123.1kg (20.8) vs 124.2kg (25.5)), BMI (44.1 (5.4) vs 44.4 (7.7)) or STC (5.64mmol/l (0.53) vs 5.85mmol/l (0.69)) between the two procedures respectively. Only female gender (73% vs 27% p=0.02) and T2DM was significantly more common in LRYGB (82% vs 37.5% p<0.0001). Overall mean (95%CI) STC improvement was significant (by 0.87mmol/l (0.7–1.04) p<0.0001), but there was no difference between LRYGB (0.85mmol/l (0.65–1.05)) vs LSG (0.91mmol/l (0.56–1.25)) (p=0.76). Complete/partial resolution was noted in 88 patients overall, but again there was no difference between LRYGB (83.9%) vs LSG (81.3%) (p=0.75).

Conclusion:

Our findings suggest bariatric surgery can be recommended for high STC, although it is not possible to recommend LRYGB over LSG as the effect was similar between the two procedures.

O-396

THE EFFECT OF LONG-TERM NUTRITIONAL STATUS ON QUALITY OF ALIMENTION AFTER BARIATRIC SURGERY

Nutrition, eating behaviors before and after bariatric surgery

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Introduction/Background:

Obesity plays a major role in the development of many diseases. On the assumption that the other relevant methods for obesity are inadequate, bariatric surgery could be used as a solution if the necessary conditions are met. After bariatric surgery, some changes in nutritional quality might occur, and these changes could affect the nutritional status.

Objectives:

The aim of this study was to determine the nutritional quality and nutritional status of 89 patients undergoing bariatric surgery.

Methods:

Demographic data, anthropometric measurements and clinical findings of 53 female 36 male 89 patients between 18-65 aged with a history of bariatric surgery were retrospectively obtained from the patient record system of the hospital. Nutritional quality and frequency of food consumption of the patients were identified prospectively by “Quality of Alimention” and “Food Consumption Frequency” forms. The patients were postoperatively (postop) divided into groups as 1st year, 2nd year and 3rd year. The process was statistically evaluated with SPSS 22 package program.

Results:

These patients daily consumed an average of 1400.46 ± 602.47 kcal energy and 56.19 ± 25.15 grams of protein. The mean of the results obtained from Quality of Alimention form of the patients was calculated as 20.97 ± 4.12 for the postop first year, 20.93 ± 4.03 for the second year and 22.24 ± 3.42 for the third year. There was no significant difference between the groups (p> 0,05). At the end of the first postoperative year, a positive correlation was found between the consumption of the energy, protein, water, fiber and nutritional quality scores (p< 0,05). It was observed that patients had difficulty when they consumed rice and bread the most, but they consumed the most comfortable fish and vegetables.

Conclusion:

In this study, it was found that the significantly weight loss (43,82 ± 25,14 kg) was achieved through bariatric surgery, also there was a relationship between nutrition quality and nutrition at the early period.

Keywords: Bariatric Surgery, Food Tolerance, Gastric Bypass, Nutritional Status, Quality of Alimention, Roux-en-Y Gastric Bypass, Sleeve Gastrectomy

O-397

THE FIRST SURVEY ADDRESSING PATIENTS WITH BMIS OVER 50

Registries and quality in bariatric surgery

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Background:

Bariatric surgery in patients with BMIs over 50 kg/m2 present technical, metabolic and risk related challenges. These concerns raise numerous questions as to the most optimal treatment for these patients. The aim of this study was to address the issue of perioperative management of patients with BMIs over 50 kg/m2 undergoing bariatric surgery by using a worldwide survey.

Methods:

An online 48-items questionnaire-based survey was created by 15 bariatric surgeons from 7 countries, based on the existing controversies surrounding the perioperative management of patients with BMI over 50 kg/m2.

Results:

789 bariatric surgeons from 73 countries participated in survey. Most (89.86%) surgeons surveyed believed that metabolic/bariatric surgery (MBS) on patients with BMIs over 50 kg/m2 should only be performed by fully trained bariatric surgeons. Approximately 64% of surgeons recommended a thorough multidisciplinary evaluation and 66.1% believed that patients with BMIs over 50 kg/m2 require a comprehensive preoperative cardiac evaluation in absence of other indications. Only 3.60% of surgeons recommended implantation of an Intragastric Balloon preoperatively for these patients and most of them (62.2%), recommend it only in selected cases; 55.7% of surgeons believed that weight loss must be encouraged before proceeding with surgery and 41.8% of surgeons recommended that patients achieve an excess weight loss of 10% or more before proceeding with surgery.

62.1% of surgeons believe that the sleeve gastrectomy (SG) is the procedure of choice for patients under18 years old with BMIs over 50 kg/m2. The SG and the one anastomosis gastric bypass (OAGB) were selected more often than other procedures for patients between 18-65 years of age (28% VS 20.6% respectively). SG also was the first choice by most of surgeons for patients who are 65 years of age or older (54.7%).

Approximately 45.9% of surgeons recommended a 2-stage surgery in patients with BMIs over 50 kg/m2. However, of those surgeons who recommended the 2-stage approach, 98.2% of these surgeons believed that the SG, should be the first operation of the 2-stage procedure.

50.4% of surgeons recommended a 12 to 24 month interval between the first and second bariatric procedures.

Post-operative thromboprophylaxis was recommended for 2 weeks or 4 weeks by 37.8% vs 31% of surgeons (respectively).

The most frequent response (68.7%) for defining weight loss failure after bariatric surgery in patients with BMIs over 50 kg/m2 was % excess weight loss (EWL) less than 50%. . Most of surgeons believe that %EWL may be a more accurate measure for reporting weight loss outcomes for these patients, compared with total weight loss (TWL) and or excess body mass index lost (EBMIL) (59.9%, 20.1% and 19.9% respectively).

Lastly, the ideal body weight for patients with BMIs over 50 kg/m2 was defined as a BMI of 30 kg/m2 by one third of the participants (37.1%).

Conclusion:

This survey demonstrated worldwide variations in bariatric surgery practice for patients with BMIs over 50 kg/m2. It can be useful for identifying several areas for future research and consensus building.

O-398

THE FIRST THIRTY-FOUR CASES AFTER THE RESTART OF BARIATRIC METABOLIC SURGERY DURING THE COVID-19 PANDEMIC AT A SINGLE INSTITUTION: WAS THERE A DIFFERENCE

Behavioral health and bariatric surgery - Pre and post-op challenges

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Introduction:

Non-emergency and non-urgent operations were suspended in India once COVID-19 was declared a worldwide pandemic. This was done in order to protect patients, staff, and provide for both adequate supplies and hospital accommodations for patients afflicted by the coronavirus.

Objective:

A prospective study was undertaken to determine the outcome after bariatric metabolic procedures during the COVID-19 pandemic once non-emergency and non-urgent operations resumed seeing if there was a difference.

Method:

The hospital was declared a non-COVID-19 hospital. In preparation for restarting regular surgeries during the COVID-19 pandemic, a protocol was made. Guidelines were determined for when there will be adequate mitigation of the COVID-19 pandemic in the territory and nationally. There was the determination of adequate supplies for the tests and PPEs needed. Staff orientation and training were done on the practice of medicine in the COVID-19 era. Telemedicine was used to prescreen and evaluate patients prior to their coming for surgery. A negative RT-PCR test within 24 hours before admission was required. The patients who underwent surgery in this pandemic era constituted Group A patients. An equal number of patients (Group B) who underwent surgery prior to the lockdown was identified from a prospectively maintained database. The two groups were compared and analyzed to see if there was a difference.

Results:

Thirty-four patients (Group A) were operated on at MBRSC between April 26 and June 4 once it was determined safe to restart non-emergency and non-urgent bariatric surgeries. There were 33(97.1%) and 31(91.2%) primary operations, 21(61.7%) and 9(26%) Sleeve Gastrectomy operations, 0(0%) and 3(4.4%) Gastric Bypass operations, 8(23%) and 17(25%) One anastomosis gastric Bypass and 4 (11.76%) and 17(50%) operations with a non-adjustable banded gastric pouch procedure in group A and B respectively. There were 1(2.9%) and 3(8.8%) revision operations in group A and B respectively. There were 10(29.4%) and 15(44'1%) males in the A and B groups respectively. The average age, height, and weight were 44.4yrs, 161.09cm and 107.56kg and 46.5yrs, 161.24cm and 109.35kg in the A and B group respectively. Co morbid conditions in these patients included T2D 6 (17.6%) and 7(20.5%), HTN 15(44.1%) and 12(35.3%), OSA 31 (91/1%) and 23(67.6%), and OA 24 (70.5%) and 18(62.9%) in the A and B group respectively. All patients were discharged on POD 6. Patients were all followed weekly using telemedicine. There have not been any COVID-19 infections, no complications, and no death in either one of the groups. No staff have has been diagnosed with COVID-19

Conclusion:

Routine primary and revision bariatric metabolic operations can be safely done during the COVID-19 pandemic era in a non-COVID facility if there is adequate testing.

Keywords: Bariatric metabolic surgery, COVID-19 pandemic, lockdown, PPEs, TP-PCR test, Telemedicine

O-399

THE IMPACT OF BARIATRIC SURGERY ON MENSTRUAL ABNORMALITIES—A CROSS-SECTIONAL STUDY

Fertility, pregnancy, nutrition and bariatric surgery

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Introduction:

Obesity is associated with hyperestrogenism along with other hormonal abnormalities affecting the menstrual cycle. The most effective and decisive method of obesity treatment is bariatric surgery.

Objectives:

The aim of this study was to analyze the impact of bariatric surgery on menstrual cycle, the incidence of menstrual abnormalities, hyperandrogenism manifestation, and contraception use.

Methods:

It was a cross-sectional study of 515 pre-menopausal women who had undergone bariatric surgery between 1999 and 2017 in a bariatric center. Data was collected via anonymous questionnaire, and the questions covered a 1-year period before the surgery and the last year before questionnaire completion.

Results:

Before the surgery, 38.6% of the patients reported irregular menstruations in comparison with 25.0% after bariatric surgery (RR = 0.65; 95%CI 0.53–0.79). The mean number of menstruations per year did not differ before and after surgery (10.2 ± 3.9 vs 10.4 ± 3.3; p < .45). There were no statistically significant differences in terms of prolonged menstruations, acne, and hirsutism prevalence. A total of 14.4% of patients before surgery reported estrogen-based contraception use in comparison with 15.0% after the surgery (p < .95). There were no significant differences in the frequency of OC use (11.0% before surgery vs 13.6% 12 months after the surgery vs 11.5% at the moment of survey administration; p < 0.46).

Conclusion:

Bariatric surgery improves the regularity of the menstrual cycle in obese women in reproductive age. The lack of any changes in the combined hormonal contraception (CHC) use, especially OC, before and after bariatric surgery may be a result of a possibly low level of contraception counselling.

O-400

THE IMPACT OF DELAYED SURGERY IN BARIATRIC PATIENTS DUE TO THE COVID-19 PANDEMIC

Basic science and research in bariatric surgery

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Background:

Obesity is closely associated with multiple physical and mental health conditions including type 2 diabetes, hypertension, anxiety, and depression. 28% of UK adults were classed as obese as of 2018. Evidence has shown that obesity is a prognostic factor for worse outcomes with COVID-19 infection. Due to surges in hospital admissions during the pandemic and decreased ITU capacity, many bariatric patients have been faced with lengthy delays to surgery. The aim of this study was to assess the impact that delay to bariatric surgery had on a cohort of patients that were on a waiting list.

Method:

All patients listed for bariatric surgery at our institution as of April 2020 (the start of the first lockdown in the UK) were included in this study. Data were collected from a prospectively maintained institutional database as well as patient interviews. Cohorts were divided into patients delayed by the initial lockdown but subsequently had surgery from July 2020 and those who remained on the waiting list. Data regarding physical and mental comorbidities, as well as BMI and COVID-19 infection were collected.

Results:

49% (35/72) underwent surgery between April to September 2020 - median waiting list time: 232 days. 52% (37/72) remained on the waiting list, median time: 226 days. There was a significant reduction in median body mass index (BMI) in the operated group, from 45.7 to 37.2 (p <0.00001). In the operated group, 100% (6/6) showed improvement in their type 2 diabetes, compared with 5% (1/20) in the delayed group (P<0.05). 60% (6/10) patients had improvement in their obstructive sleep apnoea (OSA) symptoms; 4% (1/26) in the delayed group did (p<0.05). 67% (6/9) of operated patients had improvement in hypertension compared with 12% (3/26) delayed (p=0.004), whilst 38% (8/21) reported an improvement in their mental health following surgery; 0 in delayed group reported the same (p=0.066). In the delayed cohort, 20% (4/20) experienced a deterioration in their diabetes (p=0.54), 12% (3/26) patients had worsening OSA, (p=0.55) and 12% (3/26) also had worsening of hypertension. 63% (5/8) had a deterioration in mental health over this period (p=0.066).

Conclusion:

This study has demonstrated the deleterious effects that the pandemic has had on delaying surgery in bariatric patients evidenced by a relative deterioration of comorbidities compared to a significant improvement in those who had their surgery.

O-401

THE IMPACT OF REASSURANCE COAGULATION OF THE OMENTAL SIDE PLUS STABLE LINE INVAGINATION IN SLEEVE GASTRECTOMY

Sleeve plus

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Introduction:

The early complications after laparoscopic vertical sleeve gastrectomy (LSG) like bleeding and leak may be life-threatening. Various techniques are used to minimize these complications. This study aims to evaluate the complication rates after gastric stapling alone versus stapling with overswing invagination of the staple line plus reassurance coagulation of the omental side in the LSG.

Methods:

It is a retrospective cohort study of 913 patients operated by LSG over 4 years, 515 patients operated without stable line invagination or reassurance coagulation of the omental side (Group 1). While 398 operated with stable line invagination plus reassurance coagulation of the omental side (Group 2). All patients were followed up for at least 1 year. The data collected included demographics, BMI, comorbidities, operative time, hospital stay, and complications

Results:

From the total 913 patients, 72% were female and 28% are male. The mean BMI was 44.7. the mean age was 32. The mean operative time was 52 and 45 minutes for Group 1 and Group 2 respectively ($p < 0.001$). No cases developed intraabdominal bleeding or leak in Group 2 compared to 6 cases of intraabdominal bleeding (0.7%) and 5 cases of leak (0.5%) in Group 1 (($p < 0.05$). The incidence of internal bleeding was 0.6% and 0.5% in Group 1 and 2 respectively. The percentage of excess weight loss (EWL%) was 80 and 83% for Group 1 and 2 respectively ($p < 0.001$).

Conclusion:

Stable line invagination and reassurance coagulation of the omental side in LSG significantly decrease the early postoperative complications but slightly increase the operative time.

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O-402

THE IMPORTANCE OF FOOD ADDICTION IN PATIENTS WITH BINGE EATING DISORDER AFTER SLEEVE GASTRECTOMY SURGERY

Nutrition, eating behaviors before and after bariatric surgery

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Introduction:

Although bariatric surgery (BS) is now considered as an effective and long-term weight loss intervention for morbid obese, some individuals do not experience any significant weight change after the surgery (1, 2). Therefore, it is very important to identify the factors associated with the negative outcome of BS. One of these factors is maladaptive eating behaviors such as food addiction (FA) and binge eating disorder (BED), which could be related to weight loss failure after surgery (3-5).

Binge eating is described as overconsumption of abnormally large amounts of food in disparate period of time, with a sense of loss of control (LOC). BED is defined as frequent binge eating without compensatory behaviors (6). the prevalence of BED ranges from 14-48% before surgery to 6-30% after surgery (up to second year) (7-9). FA is characterized by high consumption of particular food items such as fat, sugar and salt, leading to unusual behavioral patterns like poor self-control over eating (10). According to previous studies, the prevalence of FA ranges from 14-58% before surgery to 2-29% after surgery (during 6-12 months) (3, 4). As, the features of both BED and FA are overlapped, these disorders often co-occur and share many similarities (11). For example, among obese individuals seeking treatment for BED, 61.2% of them, met criteria for FA and these patients had greater levels of negative affect, emotion dysregulation, and lower self-esteem than those without FA (12). However, BED and FA disorders, individually, are associated with negative outcomes after bariatric surgery, but the co-occurrence of these two disorders might represent a more severe subgroup among bariatric surgery candidate. One study in bariatric surgery revealed that, nearly 18% of post-operative (6 months after laparoscopic sleeve gastrectomy (LSG)) patients with LOC eating met the criteria for FA (11). According to this study, Co-occurrence of LOC and FA following LSG, represented a more severe subgroup with elevated eating disorder psychopathology, problematic eating behaviors, greater depressive symptoms, and diminished functioning. However, there was no significant difference between FA and non-FA patients in excess weight loss outcome after the operation (11).

Emerging concepts suggest that the decreasing trend of problematic eating behaviors such as FA and BED is not stable postoperatively and these disorders remain problematic after the operation or even tend to increase over years (4, 7). The existing evidence for Co-occurrence of BED and FA, is based on observations up to six months post-surgery (11). Few studies have assessed the prevalence of FA in BED patients and its long-term effects after BS.

Optimal weight loss is defined by achieving maximum fat mass loss and minimum fat free mass loss in order to maintain a healthy nutritional, physical and metabolic status (13, 14). Our previous studies revealed that body composition changes were similar between BED and non-BED groups two years post-LSG. But individuals with FA had higher FFM loss (kg) comparing to those without FA (the article not published yet). To the best of our knowledge, there are no other evidences for body composition changes in BED or FA after BS.

Moreover, lower serum levels of magnesium, zinc and iron were associated with higher fat accumulation and risk of metabolic disorder (15, 16). According to previous studies, individuals with problematic eating behaviors had dysregulation of some minerals including magnesium, zinc and iron (17-19).

In general, it seems that body composition changes and serum levels of magnesium, zinc, iron and its related metabolism such as ferritin are important factors that should be monitored after surgery. However, there is little evidence about the association of co-occurrence of BED and FA with body composition alteration and serum levels of some mineral following BS.

Objectives:

This study was conducted to explore 1) the presence of FA in patients with binge eating disorder two years after LSG, 2) association between serum levels of magnesium, zinc, iron, ferritin and FA in patients with BED, 3) relationship between body composition outcome and FA in patients with BED, two years after LSG.

Methods:

One hundred and twenty patients with binge eating disorder who had undergone LSG two years prior to the study were enrolled. All participants were recruited from nutrition clinics of two referral university hospitals and one private hospital. All the assessments were conducted independently from the bariatric surgery program. We included Subjects who had a tendency to participate in our study and met the criteria for binge eating disorder based on 1) abnormally consumption large amounts of food and 2) sense of loss of control eating, once or more weekly over the previous 6 months. The exclusion criteria were pregnancy, breastfeeding, substance addiction, a history of menopause dysregulation, chronic diseases such as gastrointestinal, liver, or kidney disorders; diabetes mellitus; cardiovascular diseases; malignancy and any inflammation related diseases. The study was approved by the authorized ethics committees and inform consent was obtained from all participants.

Binge eating disorder and Food addiction assessment

BED was diagnosed using two approaches including diagnostic and statistical manual of mental disorders, 5th edition (DSM-5) criteria and binge eating scale (BES) questionnaire. First one is a semi-structured interview according to DSM-5 criteria which performed by trained clinical psychologists (6). Second approach, binge eating scale (BES) is a 16-item self-report questionnaire with total scores that range between 0 to 46 (20). Persian version of BES questionnaire has reliability and validity for assessing of BED in the Iranian population (21). FA was diagnosed using the Yale Food Addiction Scale (YFAS) questionnaire. YFAS is a 25-item questionnaire based on seven diagnostic criteria for substance dependence listed in DSM-5 that is related to food intake behavior. Subjects met the food addiction criteria if three or more out of the seven following symptoms were present during the previous 12 months as well as the presence of a clinically significant impairment or distress over the past year (22). FA was assessed using the Persian version of YAFS whose reliability and validity were already confirmed (23).

Furthermore, previous studies confirmed the validity of the BES and YFAS questionnaire in bariatric surgery patients (20, 24).

Assessment of body composition measures

Weight, fat mass (FM) and fat-free mass (FFM) were calculated using the Inbody 370 body impedance analyzer (BIA) (Biospace America, Inc), and height was measured using a standard tape (accuracy of 0.1 cm). BMI was calculated as weight (kg) divided by the square of the height (m2). The excess weight loss percentage (EWL%) was calculated using the following formula: [100 × (initial weight- weight in the 24 months/initial weight- ideal weight)]. The weight for BMI=25 kg/m was considered as the ideal weight. FM and FFM loss were calculated as 1) changes in FM and FFM (kg) [FM in 24 months - initial FM] and [FFM in 24 months - initial FFM] and 2) FM and FFM loss percentages relative to body weight loss [100×(FM in 24 months - initial FM)/(weight in the 24 months - initial weight)] and [100×(FFM in 24 months - initial FFM)/(weight in the 24 months - initial weight)] (25, 26). The data of pre-surgical weight, BMI, FM and FFM were obtained from the nutrition clinic of the three hospitals.

Dietary, physical activity and laboratory assessments

Food intake was assessed by three 24-h food recall two years after the surgery. Daily caloric and macronutrient intake was measured for each individual using the Iranian national food composition table. Physical activity was assessed using the Global Physical Activity Questionnaire (GPAQ), which is based on the metabolic equivalent of task (MET) value in minutes per week for work, recreation, and transport domains. Insufficient physical activity (IPA) was defined by less than 600 METs per week according to WHO recommendation (27). The GPAQ questionnaire was validated in a previous study conducted in Iran (28). Blood samples were taken from all patients and Serum was separated and stored at –70C until further analysis. All the patients underwent complete blood analysis, including: serum magnesium (photometric method), zinc (spectrophotometric method), iron (photometric method) and ferritin (immunoturbidimetry), following standard laboratory procedures.

Results:

According to the YFAS measure, FA was diagnosed in 50 of 120 patients with BED (41.66%) two years after sleeve gastrectomy surgery. Men subjects were observed in 30% of the patients with FA compared to 15.72% of the non-FA one (p=0.06) (Table 1).

Patients with FA had significantly higher weight (p=0.01), and FFM (p=0.002) compared to non-FA patients (Table 2). Regarding weight and body composition changes, the patients with FA had significantly lower FM loss percentage (% of weight loss) (p=0.04) and a higher FFM loss percentage (% of weight loss) (p=0.04) compared to those without FA. When the absolute values of FM and FFM loss (kg) were compared, it was found that FA patients (vs. non-FA) lost more kilograms of FFM (p=0.003) through their weight loss program two years after LSG. These results remained

significant after adjusted for age, gender, smoking, alcohol, supplement, physical activity variables, using linear regression model (p values for adjusted model were less than 0.05) (Table 2). Although, the patients with FA had lower EWL percentage (65.62%) compared to those without FA (66.76%), but the difference was not statistically significant (p=0.64). Regarding serum levels of some micronutrients and ferritin, the patients with FA had significantly lower levels of Magnesium (p=0.02) and a higher level of ferritin (p=0.04) compared to those without FA (Table 2).

Conclusion:

The rate of FA in BED patients 2 years after LSG (41%), was higher than the rate of co-occurrence of these disorders, 6 months post LSG (18%) (11). Our patients with FA were generally heavier compared to those without FA. Despite, no significant changes in EWL, patients with FA experienced a lower FM loss and higher FFM loss after surgery compared to those without FA. Excess body fat has been associated with obesity related-comorbidities, metabolic syndrome, cardiovascular diseases, and many other chronic diseases (29). Also, Excess FFM loss is worrying as it negatively affects the quality of life and bone mineral density and decreases resting energy expenditure (REE), which may lead to weight regain and adverse effects in the long-term following BS (30, 31). Given these evidences, the findings of the present study suggest that food addiction is associated with poor weight and health outcomes in patients with BED after obesity surgery. Moreover, other part of our result revealed that BED patients with FA had lower level of Mg and higher level of ferritin. The available evidence suggests that even a slight decrease in serum level of Mg could be associated with obesity and higher inflammation in the human body (16, 32). As ferritin is a positive Acute-phase protein, so it has been revealed that higher level of ferritin is also associated with higher inflammation and adiposity in individuals (33, 34).

In general, the results of this study confirmed the concept that food addiction is important in BED patients after bariatric surgery because of its prevalence and its potential association with negative long-term outcomes following LSG. Thus, special attention should be paid to postoperative co-occurrence of BED and FA.

Table 1. Baseline characteristics, dietary intake and physical activity variables in overall population and food addiction groups

Variables*	Overall Population (n=120)	Subjects without FA (n=70)	Subjects with FA (n=50)	P value1
Age (years)	38.31 ± 10.16	38.44 ± 9.46	38.14 ± 11.17	0.873
Gender (female)	78.33%	84.28%	70%	0.06
Smoking (Yes)	13.33%	10%	18%	0.20
Alcohol (Yes)	6.66%	7.14%	6%	0.80
Supplement (Yes)	32.50%	31.42%	34%	0.76
Physical activity (MET<600)	26.66%	28.98%	24%	0.54
Energy (kcal)	1428.94 ± 360.49	1391.33 ± 359.27	1481.59 ± 359.16	0.17
Carbohydrate (g)	193.26 ± 58.33	189.47 ± 58.71	198.56 ± 57.98	0.40
Protein (g)	53.71 ± 17.05	51.92 ± 16.39	56.23 ± 17.79	0.17
Fat (g)	54.17 ± 16.57	52.07 ± 15.86	57.12 ± 17.25	0.10

*Values are expressed as the mean ± standard deviation or percentage according to the variables.
1 P<0.05 for significant comparison between FA groups (t test or chi-squared test).
FA food addiction, MET metabolic equivalent of task, kcal kilocalorie, g gram.

O-403

THE INFLUENCE OF BARIATRIC SURGERY ON PREGNANCY AND PERINATAL OUTCOMES—A CASE-CONTROL STUDY

Fertility, pregnancy, nutrition and bariatric surgery

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Introduction:

Obesity in pregnant women increases the incidence of pregnancy-induced comorbidities and the rate of operative deliveries.

Objectives:

As bariatric surgery is the reference method of treatment of obesity, we wanted to evaluate its influence on the course of pregnancy and perinatal outcomes.

Methods:

Data was collected from 627 female patients after bariatric surgery, of whom 107 had a history of pregnancy after the surgery, and 345 non-bariatric patients who had a delivery at a tertiary perinatal center. Sixty-one cases were matched (1:1) with controls for age, pre-pregnancy BMI and presence of pre-pregnancy comorbidities. The main endpoints were gestational diabetes mellitus (GDM), pregnancy-induced hypertension (PIH), small (SGA) and large for gestational age infants (LGA) and cesarean sections (CS).

Results:

Patients after bariatric procedures were significantly less likely to have GDM (19.67%/37.7%; p = 0.0433), PIH (11.47%/16.39%; p = 0.6072) and preterm delivery (13.11%/37.7%; p = 0.0026). The CS rate was higher (57.38%/40.98%; p = 0.0987). There was an increased risk of SGA (18.03%/13.11%; p = 0.6072) and a decreased risk of LGA (6.56%/16.39%; p = 0.146).

Conclusions:

Patients after bariatric surgery have a decreased risk of pregnancy-induced comorbidities, preterm deliveries and LGA infants, with an increase in rate of CS and SGA infants compared to general population matched for pre-pregnancy BMI, age and presence of pre-pregnancy comorbidities.

O-404

THE INTRA- AND INTER-INDIVIDUAL VARIABILITY OF LAPAROSCOPIC SMALL BOWEL LENGTH MEASUREMENT IN BARIATRIC SURGERY: AN EX VIVO EXPERIMENT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Both Roux-en-Y gastric bypass (RYGB) and one anastomosis gastric bypass (OAGB) are often used procedures for patients with morbid obesity. Tailoring limb length is subject in many studies to improve outcome and in RYGB it has been shown that a longer biliopancreatic limb results in better weight loss. To acquire the optimal limb length, accurate and precise measurement of the small bowel is essential.

Objectives:

The aim of this study was to assess the intra- and inter-individual variability of laparoscopic bowel length measurement by performing an ex vivo experiment. Accurate measurement was defined as less than 10% deviation from the actual bowel lengths, assuming this margin has no or little clinical consequences.

Method:

Four bariatric surgeons and four surgical residents were included. Measurements were performed on cadaver porcine intestine in a laparoscopic box using marked graspers. Each participant performed 10 times a measurement of three different lengths: 150, 180, and 210 cm. Percentage deviation from the goal lengths were analyzed by a mixed model for repeated measures analysis.

Results:

The bariatric surgeons measured the 150, 180, and 210 cm tasks with 4% (CI 0.4, 9), -6% (CI -11, -0.8), and 1% (CI -4, 6) deviation, respectively. All three measured tasks significantly differed from the surgical residents who underestimated the lengths of the 150, 180, and 210 cm tasks with 12% (CI -18, -6), 16% (CI -19, -13), and 18% (CI -22, -13), respectively. Inter-individual differences were found between the surgeons.

Conclusion:

Bariatric surgeons were able to perform accurate laparoscopic bowel length measurements with less than 10% deviation from the goal lengths. However, there were inter-individual differences between the bariatric surgeons. Surgical residents underestimated the limb lengths with much wider spread.

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O-405

THE LAPAROSCOPIC RATING SCALE FOR CHOICE ROUX-EN-Y GASTRIC BYPASS OR SLEEVE GASTRECTOMY FOR SUPER OBESITY PATIENTS

Basic science and research in bariatric surgery

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Background:

A rating scale would standardize the choice of one- or two-step treatment for super obesity, especially for under-experienced bariatric surgeons.

Objectives:

The aim of the work was to determine a rating scale for assessing the conditions of the working laparoscopic space based on linear measurements to select the optimal surgical treatment for super obesity.

Methods:

All measurements were taken during laparoscopy before starting the main stage of surgery. For linear measurements, we used the commercially available “Endo Stitch” (Medtronic, USA).

The model schematic and key points for linear measurement are shown in Fig. 1:

- AC - thickness of the anterior abdominal wall;
- CD -distance from the inner edge of the abdominal wall to the surface of the internal organs;
- CG -distance of the lower surface of the anterior abdominal wall to the esophageal opening of the diaphragm;
- EG -thickness of the left lobe of the liver on an instrument held under the lower surface of the liver to the esophageal hiatus;
- JI -distance from the inner edge of the abdominal wall in the left hypochondrium to the Treitz ligament;
- FI - distance from the Treitz ligament to the upper edge of the greater omentum.

The proposed method for calculating the AII components includes:

1. Determination of CD/AC.
2. Calculation of the CG/EG.
3. Determination of JI/FI.
4. Calculation of the rating scale (abdominal integral index (AII)) in the form of the sum of points from three dimensions (ratios): AII = (CD/AC) + (CG/EG) + (JI/FI).

Results:

The study included 14 female patients. The average age was 38.71 ± 3.79 years (35-45), the average height was 169 ± 0.71 cm (168-170), the average body weight was 155.07 ± 6.5 (145-167), and the average body mass index was 54.3 ± 2.36 kg/m2 (50.5-57.8).

Anthropometric data, measurements, and assessments of the bariatric procedure conditions for each patient are shown in Table 1.

For the 14 patients, the evaluation results were distributed as follows (condition/choced procedure): optimal condition (AII >5/LRYGB), (n=1); good condition (AII 4-<5/LRYGB), (n=3); acceptable condition (AII 3 - <4/LRYGB), (n=6); poor condition (AII 2-<3/LSG), (n=3); and extremely poor condition, (AII <2/LSG), (n=1). Table 2 shows the levels (degrees).

Conclusions:

The rating scale, based on linear measurements in the abdominal cavity, provides a standardized assessment and allows the selection of surgical treatment for super-obese patients.

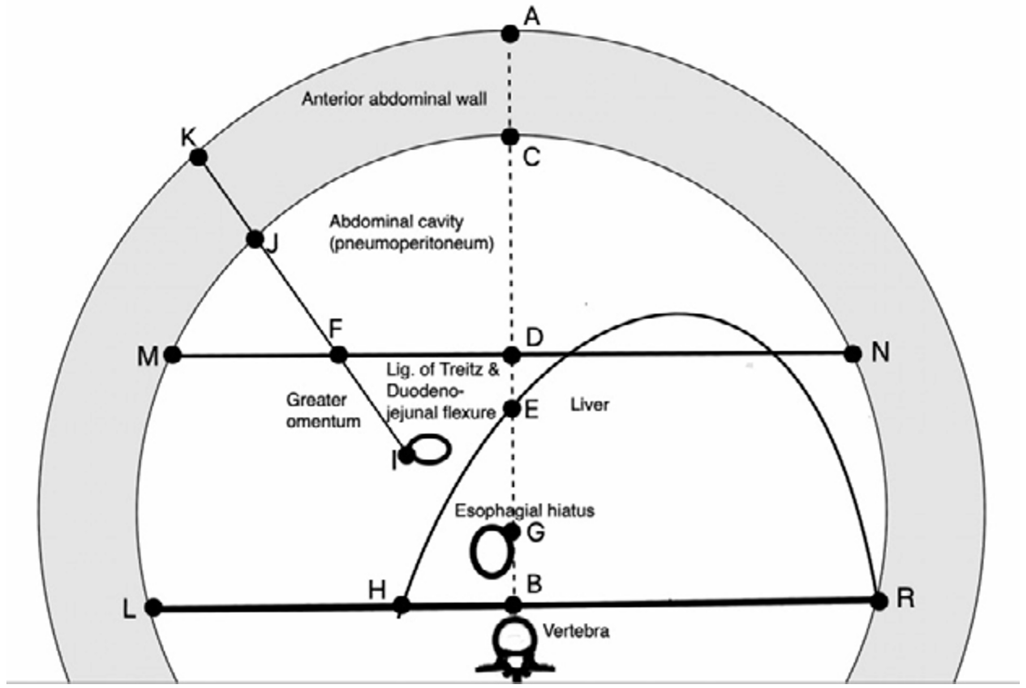

Table 1. Anthropometric data, AII calculation and rating scale score

Patient №	Age (year)	Height (cm)	Weight (kg)	BMI (kg/m2)	Segment ratios (distance) CD/AC (points)	CG/EG (points)	JI/FI (points)	AII* (points)	Assessment of operating conditions for laparoscopic bariatric procedure
1	39	168	145	51.4	1.1	1.9	1	4.0	Good condition
2	45	170	146	50.5	1.4	2	0.9	3.5	Acceptable condition
3	35	169	148	51.8	1.3	2	1.8	5.1	Optimal condition
4	45	168	149	52.8	1.2	1.8	0.8	3.8	Acceptable condition
5	37	168	151	53.5	1.5	1.6	0.9	4.0	Good condition
6	40	170	160	55.4	0.9	1	0.4	2.3	Poor condition
7	45	169	162	56.7	1.2	1.6	0.6	3.4	Acceptable condition
8	36	170	167	57.8	1.6	1.7	0.5	3.8	Acceptable condition
9	37	168	152	53.9	0.4	1.6	0.4	2.5	Poor condition
10	35	170	161	55.7	0.7	1	0.2	1.9	Extremely poor condition
11	40	169	149	52.2	1.2	1.8	0.9	3.9	Acceptable condition
12	37	169	157	55.0	1	2.4	0.7	4.1	Good condition
13	36	170	161	55.7	2.1	1.9	0.6	3.6	Acceptable condition
14	35	168	163	57.8	1	1.15	0.75	2.9	Poor condition
All	38.71⊥3.79	169⊥0.71	155.07⊥6.5	54.3⊥2.36					

*AII - abdominal integral index

O-406

THE LONG-TERM EFFECT OF ROUX-EN-Y GASTRIC BYPASS VERSUS SLEEVE GASTRECTOMY ON REFLUX AND BARRET'S ESOPHAGUS: A RANDOMIZED CONTROLLED TRIAL

GERD and bariatric surgery

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Background:

Bariatric surgery is an effective treatment for obesity, with Roux-en-Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG) being the most common procedures performed worldwide. SG is a potentially refluxogenic operation with an increased risk of developing gastroesophageal reflux disease (GERD) and Barrett's esophagus (BE). On the other hand, RYGB is regarded as an effective anti-reflux procedure that may even regress BE.

Objective:

To compare the long-term incidence of intestinal metaplasia (IM), BE, and GERD following SG and RYGB.

Methods:

109 participants of a double-blinded RCT were contacted to take part in the study. Recruited patients were consented and asked to fill out a GERD Quality-Of-Life Scale questionnaire. A gastroscopy was performed with routine biopsies taken from the gastroesophageal junction (4- quadrant), esophagus, stomach and duodenum/jejunum. Endoscopic and histologic evidence of focal metaplasia (FM) or BE were identified as the primary outcome and recorded using the Prague Classification. Secondary outcomes included reflux scores, proton-pump inhibitor (PPI) usage, BMI, excess weight loss (EWL) and diabetes control.

Results:

Of 109 patients, 48 patients were enrolled into the study (SG 26 [54.2%] vs RYGB 22 [45.8%]). Mean follow-up was 7.4 years (range 6.9–9.3 years). 8 SG patients had BE (6) or FM (2) while 3 RYGB patient had BE (30.8% vs 13.6%, p=0.094). There was no significant difference between the two groups when higher risk BE (long segment or dysplastic) were compared: SG 1 (3.8%) and RYGB 1 (4.5%).

Mean regurgitation score was 7.7/45 for SG patients (range 0–22) and 11.5/45 for RYGB patients (range 0–44), p=0.152. Mean Heartburn score was 8.4/45 for SG patients (range 0-36) and 9.1/45 for RYGB patients (range 0-34), p=0.783. PPI usage pre-SG was 6/26 (23.1%), compared to 13/26 (50.0%) post-surgery. PPI usage pre-RYGB was 8/22 (36.4%) compared to 12/22 (54.5%) post-surgery (p=0.780).

EWL was significantly greater (p=0.007) in the RYGB group (mean 74.8%) and SG group (mean 49.7%). Diabetes control trended towards greater improvement with RYBG compared with SG as denoted by mean HbA1C levels (43.0 vs 48.6 p = 0.083).

Conclusion:

Long-term incidence of BE or FM trended towards but was not significantly higher for SG compared to RYGB groups. The regurgitation score and PPI usage did not defer significantly. We support routine endoscopic surveillance for bariatric patients.

O-407

THE NISSEN-SLEEVE: EARLY POSTOPERATIVE COMPLICATIONS

GERD and bariatric surgery

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Introduction:

Nissen Sleeve was introduced in the bariatric armamentarium with the purpose to decrease the risk of reflux symptoms following sleeve gastrectomy. The aim of this study was to evaluate our personal experience with this new technique, in particular concerning early postoperative complications (< 30 days).

Methods:

We retrospectively reviewed our prospectively collected data on consecutive morbid patients with obesity receiving Nissen-Sleeve (NS) from December 2019 to August 2020. All data pertaining to each patient, including demographic data, preoperative and postoperative clinical data, were collected.

Results:

A total of 28 N-sleeve procedures were performed in the period considered. All the patients had a hiatal hernia that was evaluated between 2 and 6 cm of extent in the preoperative work. Oesophagitis of stage A, according to the Los Angeles classification, was detected in the 71% of the patients while 8 our 28 patients presented a stage B oesophagitis. One of the patients has a preoperative diagnosis of Barret oesophagus. A complete disappearance of GERD symptoms was achieved in 25 patients out 28, while the remain patients reported an improvement in the symptoms and treated with low dose of PPI. Two reinterventions (7.1%) were performed (Clavien-Dindo IIIb). Three other patients (10.7%) experienced a transient postoperative dysphagia that in one case persisted for four months (Clavien-Dindo II). All the patients were managed with conservative treatment and in any case an endoscopic dilatation was necessary.

Conclusions:

Nissen-sleeve appears to be a safe surgical technique with an acceptable early postoperative complication rate. Nissen-sleeve appears to be effective in treating patients suffering from obesity and preoperative reflux, but the data are absolutely insufficient to establish whether it could reduce the long-term risk of de novo GERD in LSG patients.

O-408

THE OUTCOMES OF REVISIONAL ONE ANASTOMOSIS GASTRIC BYPASS VERSUS REVISIONAL ROUX-EN-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Failed restrictive procedures are usually managed with conversion to another bariatric procedure. Our aim is to evaluate the One-anastomosis gastric bypass (OAGB) as a revision option for failed restrictive procedures. By extension, we compare the reflux outcomes of OAGB vs Roux-en Y gastric bypass (RYGB) as a revisional bariatric procedures.

Methods:

The current series is a prospective study, from May 2009 to December 2016, a total of 348 patients with failed restrictive bariatric operations underwent laparoscopic revisional gastric bypass. The revisional OAGB were performed for 243 patients and revisional RYGB for 105 patients, the demographic data and outcomes were studied by our multidisciplinary team.

Result:

By the end of the study, the mean age was 39.3±10.3 years with body mass index is 37.5±9.2 Kg/m2. At 2-year follow-up, the overall intractable reflux (Symptom score (SS) questionnaire score >4) was significantly higher after R-OAGB (21.4%). The reflux with scoring ≥ 4 was significantly higher in the vertical band gastroplasty than laproscopic adjustable gastric band and laparoscopic gastric sleeve (25.2, 16.9 and 14.3 %, respectively).

Conclusion:

Although laparoscopic revisional OAGB is a feasible and safe option after failed restrictive procedures, R-OAGB has a higher chance of reflux in long-term follow-up.

O-409

THE REPORTING OF BEHAVIOUR CHANGE TECHNIQUES IN STUDIES OF ADJUNCT BEHAVIOURAL WEIGHT MANAGEMENT INTERVENTIONS IN PATIENTS UNDERGOING BARIATRIC SURGERY

Adjunctive interventions to enhance weight loss and prevent weight regain

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Background:

Behavioural weight management (BWM) interventions consist of a variety of behaviour change techniques (BCTs). Currently, clinicians lack evidence-based BWM interventions to optimize bariatric surgery care. Being able to understand BWM in terms of their BCTs might help identify effective intervention components that can be consistently applied in clinical practice.

Objectives:

To evaluate the type and quantity of BCTs within BWM interventions adjunct to bariatric surgery

Methods:

This work was part of a living systematic review and meta-analysis of BWM intervention trials conducted in adult patients undergoing bariatric surgery. Two trained coders used Michie's BCT taxonomy to code the available intervention materials from each study. Coding discrepancies were adjudicated by a third behavioural science reviewer.

Results:

Twenty-two studies were included. Only in one of the studies did authors explicitly code their intervention using the BCT taxonomy, and five studies provided too little detail to be able to extract the BCTs. The most widely extracted techniques were goal setting (81%), demonstration or instruction on how to perform a behaviour (68%), and action planning (50%). Although interventions that target the control of negative emotions and cognition improvement are highly recommended for effective behaviour change, under a quarter of the studies (22%) utilized emotion-related techniques. The least common BCTs included; reward-related techniques (e.g., self-reward; 5%) and behaviour substitution or habit reversal (9%).

Conclusion:

The insufficient and low-quality reports of BCTs, even in studies that attempted to use them, raises concerns about the replicability of such interventions. This gap in the literature highlights the importance of having a more comprehensive descriptions of interventions, with particular emphasis being on identifying the target participant(s), behavior(s), and outcome(s). Ultimately, adopting BCTs while designing behavioural interventions would lead to the development of efficacious interventions and enhance long-term benefits from bariatric surgery. Importantly, this descriptive review was the initial step towards additional analyses to recognize BCTs associated with better post-surgical outcomes.

O-410

THE ROLE OF ABDOMINAL DRAINAGE IN BARIATRIC SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

Whether routine abdominal drainage is needed during bariatric procedures, remains a matter of debate. Does drain placement differs from post-operative complication rates or offers the benefit of early detection of complications is still a concern of surgery.

Objectives:

We aimed to investigate if drain placement has a role in postoperative outcomes.

Methods:

Patients who underwent bariatric surgery between January 1st, 2013, and October 28th, 2020 were retrospectively evaluated. Our inclusion criteria included all patients undergoing Laparoscopic Roux-en-Y Gastric Bypass (LRYGB), Laparoscopic Sleeve Gastrectomy (LSG) and Transit Ileal Bipartition (TIB). We examined demographics, operative characteristics, the use of drains, hospital stay, operation time, and postoperative complications.

Results:

From 2013 to 2020, a total of 497 patients' records that have undergone bariatric operations were scrutinized. 294 Patients were with a drain and 203 without a drain. Eighty-eight percent of LSG patients had a drain placed but only 31 % of LRYGB patients have it. Twenty-five percent of TIB have drains. The percentage of drain placement dropped from 100 % to 3,4 % during the last two years of the study period.

Conclusions:

Drains are still commonly used in bariatric surgery. Over our study period, we have observed a decrease in the use of drains in three types of operations. Patients with a drain did not show a difference from patients without a drain in comparison of postoperative complications and mortality. This informs us against the regular use of drains.

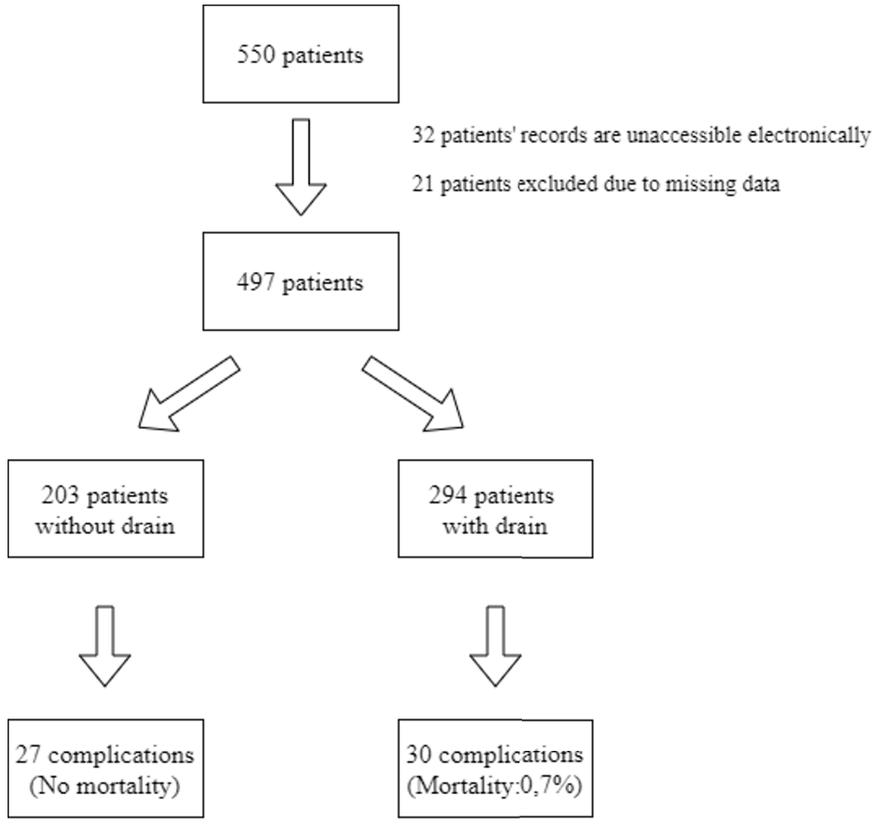

Fig. 1 Patient flow and the main results obtained

O-411

THE SAFETY OF OPTICAL TROCARS IN THE ESTABLISHMENT OF PNEUMOPERITONEUM IN PATIENTS WITH OBESITY: A SINGLE CENTRE RETROSPECTIVE STUDY

Bariatric training

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Introduction:

Bariatric and metabolic procedures are becoming more common worldwide and laparoscopic surgery is the primary method to perform these operations. Accessing the peritoneum remains a challenge in obese patients and this study aims to assess the safety of optical trocars in bariatric surgery.

Methods:

A retrospective study was conducted on all patients that have undergone bariatric surgery in our center between the years of 2017-2019 to examine the method by which pneumoperitoneum was established. We studied the incidence and type of complications associated with creating pneumoperitoneum in obese patients, along with the rates of converting to an open procedure.

Results:

A total of 821 patients underwent bariatric surgery in our center over the 3 year period. They had an average age of 34.2 years (range = 13 - 65) with an average BMI of 45.9 kg/m2. Optical trocars successfully established pneumoperitoneum in all these patients. Complications attributed to optical trocar entry were encountered in 8 patients (0.97%), 3 males and 5 females. The average BMI of these 8 patients is 52.7 kg/m2, 4 of which had a BMI >50 kg/m2. The complications encountered included 3 liver lacerations, 4 mesenteric injuries and 1 omental vessel laceration. Four injuries were caused by 12 mm optical trocars while the other 4 injuries were caused by 5 mm optical trocars. These complications were managed laparoscopically and no patients had to be converted to a laparotomy.

Conclusion:

The use of non-bladed, optical trocar entry into the abdomen can be considered a safe method in the establishment of pneumoperitoneum in patients with obesity. However, more studies are required randomizing the use of optical trocars to the open Hasson technique in order to further validate this method.

O-412

THE SKELETAL MUSCLE MASS INDEX IN PATIENTS UNDERGOING ROUX-EN-Y GASTRIC BYPASS: RESULTS FROM A PROSPECTIVE SINGLE-CENTER TRIAL

Basic science and research in bariatric surgery

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Background:

The skeletal muscle mass index (SMI) is increasingly used as a prognostic factor in oncologic and surgical patients. However, its role in patients with excessive weight loss is unclear. The aim of this study was to investigate postoperative changes in the skeletal muscle mass index (SMI) in patients undergoing Roux-en-Y gastric bypass (RYGB). Results were compared to changes in body composition obtained by bioelectrical impedance analysis (BIA).

Methods:

We performed a prospective single-center trial. Patients undergoing RYGB between January 2010 and December 2011 at our institution were eligible for this study. MRI and BIA measurements were obtained 1 day prior to surgery and at 6, 12 and 24 weeks after surgery.

Results:

A total of 17 patients was included. SMI values showed a significant decrease during the postoperative course ($p<0.001$). Comparing preoperative and postoperative measurements at 24 weeks after surgery, increasing correlations of SMI values with body weight ($r=0.240$ vs. $r=0.628$), phase angle ($r=0.225$ vs. $r=0.720$) and body cell mass (BCM, $r=0.388$ s. $r =0.764$) were observed.

Conclusions:

SMI decreases significantly after RYGB and is correlated to distinct parameters of body composition. Applying BIA measurements, we can get a good overview over patients' status post bariatric surgery including an estimation of sarcopenia.

O-413
THE SUSTAINED RISK OF OBESITY ON BREAST CANCER INCIDENCE AFTER SURGICAL WEIGHT LOSS: A POPULATION-BASED, MULTIPLE-MATCHED COHORT STUDY

Bariatric surgery and cancer

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Introduction:

Excess adiposity confers higher risk of breast cancer in women. For women who have lost substantial weight, it is unclear whether previous obesity confers a residual increased baseline risk of breast cancer.

Objectives:

To determine whether there is a sustained baseline risk of breast cancer due to obesity after substantial weight loss.

Methods:

Using population-based clinical databases from Ontario, Canada, we matched a cohort of women who underwent bariatric surgery for obesity (baseline BMI≥35 kg/m2 with comorbidities or BMI≥40kg/m2) to females in 4 different BMI classes: <25, 25-30, 30-35, and >35 kg/m2. Using a propensity score for age and breast cancer screening history, we examined the residual hazard of breast cancer after wash-out periods of 1-, 2-, and 5-years following surgery.

Results:

In total, 69,260 women were included: 13,852 women in each of the 5 cohorts. Average age was 45.1. When comparing the post-surgical cohort to the combined cohort (n=55,408) after 1-, 2-, and 5-year washout periods, there was a reduced hazard for incident breast cancers (point estimates 0.78, 0.71, and 0.67 respectively). When comparing the post-surgical cohort to the BMI≤25kg/m2 cohort, the hazard of breast cancer incidence was not significantly different (p=0.19). Comparatively, there was a reduced hazard for the post-surgical cohort compared to all BMI>25kg/m2 categories.

Conclusion:
There was no residual baseline risk of previous obesity after substantial weight loss and this effect appears to be sustained. Patients with previous obesity have an associated risk similar to those with BMI≤25kg/m2, and lower than those with BMI>25kg/m2.

O-414
THE UNTOLD STORY BEHIND TIJUANA'S BARIATRIC SUCCESS

Bariatric surgery tourism

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Background:

Obesity is a worldwide epidemic, and bariatric surgery is an essential strategy against it (1, 2, 3). Even though technology keeps evolving, many healthcare organizations have fallen short and have not moved forward at the same pace. (4) Insurances and hospitals deny coverage, even though it is the most effective way to control this problem. (4, 5, 6)

Objectives:

When the number of patients overwhelms an already flawed system, it is only logical to seek other destinations to solve their struggles. (4, 7) Medical tourism (MT) has been possible thanks to the availability of experts in nearby borders, lower cost of travel, and marketing strategies. (4, 8) MT can handle all the travel arrangements, consultations, and treatment. (9, 10, 11)

Methods:

The primary motive in seeking MT is financial as these costs are much lower. Also, the unavailability of a specific technique, expertise, wait times, lack of supplies, and the feeling that their healthcare system does not address their needs has justified their decision to go abroad. (12)
Many surgical organizations have valid concerns about the quality of care surrounding MT in bariatric patients since they have an increased risk of complications that could cost more than the original procedures. (8, 10)

Results:

That said, we cannot deny the example of Tijuana to the bariatric community; the technology and equipment of the leading hospitals in the world will fall short of those available in Tijuana.
Not only that, but they could be regarded as the true experts in bariatric surgery. Not even high-volume bariatric centers can compete with their numbers. The number of surgeries makes Tijuana unique. They perform more surgeries than any reported series. Patients' complications are solved without delay; this is vital, as word of mouth, testimonials, and buzzwords are their way of contacting patients. They have developed a quick and effective way of handling complications.

Conclusion:

It is necessary to change our approach to obesity and how the healthcare system works. We must learn from Tijuana's success and realize that there might be an opportunity to offer high-quality care with minimal complications at an affordable price.
If we are honest, we can change our perspective, and the entire world can benefit from this reality. Despite what we might have heard about bariatric tourism, something valid is happening in Tijuana that we must all know and learn from.

O-415

THE USE OF NON-INVASIVE SCORING IN PREDICTING NAFLD FIBROSIS SCORES AFTER BARIATRIC SURGERY IN PREDOMINANTLY IN ETHICALLY DIVERSE PATIENT POPULATION IN INNER-NEW YORK CITY HOSPITAL

Basic science and research in bariatric surgery

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Background and Objectives:

Nonalcoholic fatty liver disease (NAFLD) is defined as evidence of hepatic steatosis in absence of any other cause of hepatic fat accumulation. Prevalence of NAFLD is 20-30% in general population and 80-90% in bariatric population. Untreated, it may progress to cirrhosis. Bariatric surgery has been postulated to positively impact the liver function resulting in favorable effects on NAFLD. We aimed to analyze the impact of bariatric surgery on liver enzymes and non-invasive NAFLD predicting fibrosis scores in a non-Caucasian bariatric population.

Methods:

Retrospective study of 2673 patients who underwent bariatric surgery at a New York City public hospital. The patients who met the inclusion criteria are: patients with no history of liver disease, cirrhosis and non-alcoholics with pre/post op basic data including demographics, BMI and liver function tests. Four different NAFLD predicting fibrosis scores were calculated and analyzed pre-op, post op 6 months and annually up to 5 years. These included NAFLD fibrosis score (NFS), Fib-4 score, AST/ALT ratio and APRI scores. Data were expressed as mean ± SD. Differences were analyzed using linear mixed-effects model and logistic regression along with paired t tests and Pearson's correlation coefficients, using a $p < 0.05$ considered statistically significant.

Results:

88.64% female; mean age 40.39 ± 0.9 yrs (18-72 yrs), 59.28% white Hispanic and 22.75% African-American. Pre-op mean BMI was 45.2 ± 0.14 kg/ m2(24.45 – 91.01kg/m2). Mean AST was 26.05 ± 5.6U/L, ALT; 28.64 ± 5.9 U/L. Both AST and ALT declined significantly ($p<0.05$) in the entire group at various times in the study. Compared to baseline preop levels, post op AST levels declined at 6-month (mean difference = 5.57, $p <0.05$), and at post-op 12-month AST (mean difference = 5.75, $p <0.05$). There was no statistically significant difference in AST between pre-op and other post-op time points ($p > 0.05$). For ALT, post op ALT levels declined at 6-month (mean difference = 8.88, $p <0.05$), and at post-op 12-month ALT (mean difference = 10.06, $p <0.05$). There was no statistically significant difference in ALT between pre-op and other post-op time points ($p > 0.05$). AST/ALT ratio were 1.01, 1.21, 1.23, 1.26, 1.25, 1.25, 1.17, at Pre-op, post op 6 months, 12 months, 24 months, 36 months, 48 months, 60 months respectively. Where APRI score 0.27, 0.22, 0.23, 0.27, 0.26, 0.30, 0.32 at Pre-op, post op 6 months, 12 months, 24 months, 36 months, 48 months, 60 months respectively. With Fib-4 score were 0.79, 0.90, 0.95, 1.06, 1.11, 1.20, 1.19 at Pre-op, post op 6 months, 12 months, 24 months, 36 months, 48 months, 60 months respectively. Post op changes in weight loss were positively correlated to changes in Serum transaminase levels ($r=0.02$) but it was not significant ($P>0.05$).

Conclusion:

Reduction in AST and ALT with improvement in APRI and Fib 4 score were observed in patients who underwent bariatric surgery. Limitations: Study was retrospective with loss to follow-up over time. Due to lack of liver biopsy, positive effects couldn't be confirmed.

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O-416

THIRTY-DAY READMISSIONS AND REOPERATIONS AFTER BARIATRIC SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

It is important to consider readmissions and reoperations after bariatric surgery, particularly in relation to patient outcomes and cost reduction efforts. This study assesses reoperation and readmission rates and compares the most common bariatric procedures: laparoscopic Roux-en-Y gastric bypass (LRYGB), sleeve gastrectomy (SG), and biliopancreatic diversion with duodenal switch (BPD-DS).

Methods:

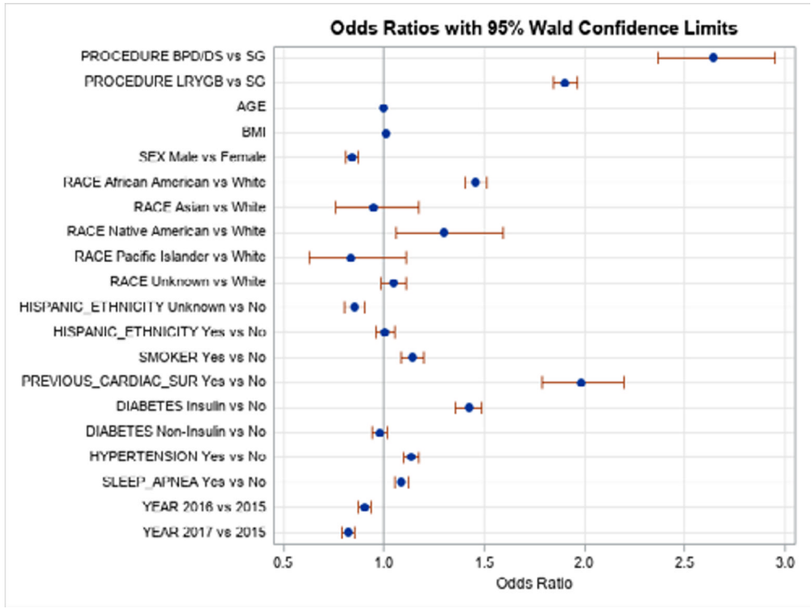
The MBSAQIP participant use files from 2015-2017 were analyzed. 30-day readmission, reoperation rates, and several other variables were evaluated (Figure 1). Statistical analysis included multiple logistic regression to analyze the effect of various patient characteristics on reoperation and readmission. A p≤0.05 was considered statistically significant.

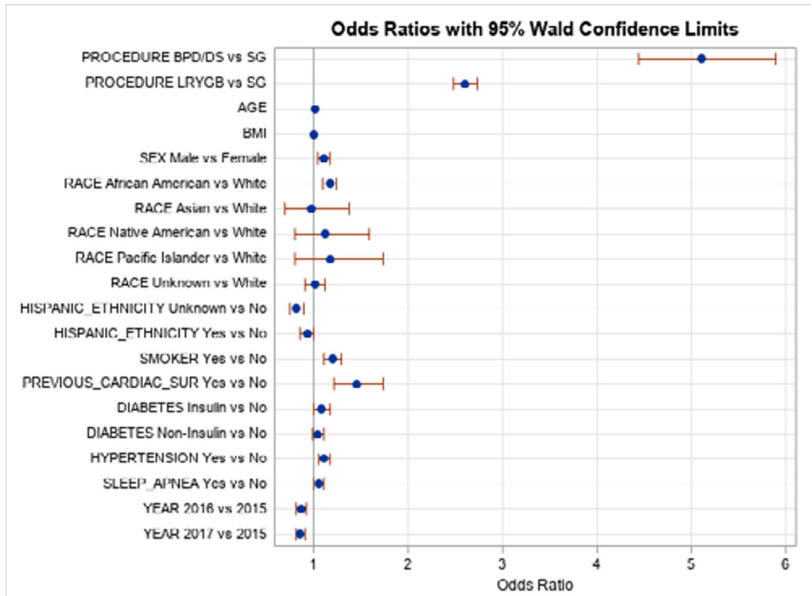
Results:

445,657 patients were included; 320,874 (72%) patients underwent SG, 120,777 (27%) patients underwent LRYGB, and 4,006 (1%) underwent BPD-DS. The mean age and BMI were 44.6±12.0 years and 45.4±8.0 kg/m2, respectively; 79.3% were female. The overall readmission rate was 4.5% and reoperation rate was 1.6%. Readmission rates by calendar year 2015-2017 were 5.1%, 4.5%, and 4.1% (p< 0.001) and reoperation rates for those same years were 1.8%, 1.5%, and 1.5% (p<0.001). Mean days to readmission and reoperation were 13.5±8.1 and 10.5±9.0, respectively. LRYGB [Readmission:(OR: 1.90, 95%CI: 1.85-1.96; p<0.0001)][Reoperation: (OR: 2.60, 95%CI: 2.48-2.73; p<0.001)] and BPD-DS [Readmission(OR:2.64, 95%CI: 2.37-2.95; <0.001)] [Reoperation; (OR: 5.11, 95%CI: 4.43-5.89; p<0.001)] were associated with higher odds of readmission and reoperation compared to SG.

Conclusions:

Thirty-day readmission and reoperation rates decreased over the 3-year study period. Although rates of readmissions and reoperations were low, BPD-DS was associated with the highest rates followed by LRYGB then SG.





O-417

THIS IS WHY SLEEVE GASTRECTOMY SHOULD BE RECONSIDERED IN SYMPTOMATIC AND ASYMPTOMATIC GERD PATIENTS

GERD and bariatric surgery

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Abstract

Background:

GERD is one of the complications of bariatric operations that my affect quality of life. Our aim is to perform a retrospective cohort study to determine the incidence of symptomatic GERD following different types of bariatric surgery and which operations are considered a contraindication of GERD. In addition, we are attempting to identify the risk factors of GERD after bariatric surgery.

Materials and Methods:

Medical records of 729 patients undergone bariatric operations between January 2010 and June 2019 at Shamir (Assaf Harofeh) Medical Center were reviewed.

Results:

There were significant difference between the type of the bariatric procedure and the incidence of GERD symptoms after the operation. The incidence of symptomatic GERD in patients who underwent SG was 39.9% (p =0.0131). This was significantly higher comparing to 16.4% following roux en y gastric bypass, 23.4% following LAGB, and 11% following OAGB.

113 patients out of 718 had a positive swallow test and of these patient 71 developed GERD symptoms post-operatively without correlation to the degree of reflux at the swallow test but with statistically significant correlation to the type of operation especially for SG (P value <0.001) and to our knowledge this was never reported in the literature.

Conclusion:

SG is a good bariatric procedure option but should be contraindicated in asymptomatic reflux contrast swallow study and symptomatic GERD patients preoperatively because of high levels of symptomatic GERD post-operatively. Asymptomatic reflux at contrast swallow study pre-operatively should be considered a risk factor for GERD after the operation.

O-418

THREE TECHNIQUES OF ENDOSCOPIC GASTROPLASTY AND THEIR TECHNICAL ASPECTS FROM A PROSPECTIVE, SINGLE CENTER, RANDOMIZED OBSERVATIONAL STUDY

Gastric plication

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Background/Introduction:

Three different techniques of endoscopic gastroplasty (EG) are mainly reported in literature: endoscopic sleeve gastroplasty (ESG), endoluminal vertical gastroplasty (EVG), and distal primary obesity surgery endoluminal (D-POSE).

Objectives:

In this study we aimed to focus on the technical aspects of each technique.

Methods:

This was a prospective, single center, randomized observational study of patients who underwent EG through ESG, EVG or D-POSE for the treatment of obesity (ClinicalTrials.gov NCT04854317). The primary end point was to assess the technical success rate and the occurrence of serious adverse events (SAEs). Secondary endpoints were the evaluation of intra and post-procedural adverse events, major and minor technical complications, and the technical features of each procedure.

Results:

Between July 2020 and October 2021, 90 obese (body mass index 36.5±2.97 kg/m2) patients (mean age, 45±10 years) underwent EG (Fig. 1). The technical success rate was 100% without SAEs. The intra-procedural adverse events were observed in 58.3% of patients (mild or moderate bleeding, self-limited or well controlled by cinching the suture). The main post-procedural adverse events were epigastric pain (75%), nausea (64.2%) and emesis (49.2%), with a decreasing trend in the first 24 hours, except in D-POSE. No major intraprocedural technical complications were encountered. Minor intraprocedural technical complications occurred in 46/90 (51.1%) patients, being more frequent in ESG (p<.05) and EVG (p<.001). The mean procedure time was 59.9±18.7 minutes, EVG being longer than the other two procedures (p<0.001). ESG was performed using mostly 4 running sutures, mostly with 6-8 bites per suture (24-32 bites in total) in a “U” pattern, while EVG was done mostly with 7 tissue appositions each of them involving 2 bites (14 bites in total) and D-POSE mostly with 17 plications (“belt” and “suspenders”). The stomach was shortened on average by 12.2±4.0 cm, representing a 36.1±10.7% length reduction, with D-POSE shortening the stomach more than ESG (p<0.05) and EVG (p<0.001).

Conclusion:

EG through ESG, EVG and D-POSE, is technically feasible and safe. ESG and D-POSE seem less time-consuming, D-POSE seems to shorten the stomach more and has a lower rate of intraprocedural technical complications, ESG and EVG appear better tolerated in the postoperative.

Fig. 1: Appearance of gastric body after Endoscopic Gastroplasty through endoscopic sleeve gastroplasty (ESG, 1a), endoluminal vertical gastroplasty (EVG, 1b) or distal primary obesity surgery endoluminal (D-POSE, 1c), respectively.

O-419

THREE-DIMENSIONAL (3D) ENDOSCOPIC SLEEVE GASTROPLASTY: SINGLE CENTER CASE SERIES

Endoscopic and percutaneous interventional procedures

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Background:

Obesity and its associated cardio-metabolic comorbidities have emerged as a global pandemic. Lifestyle and medical therapy alone fail to achieve sustained long-term weight loss in a large proportion of patients
Endoscopic sleeve gastroplasty has emerged as an endoscopic treatment of obesity, providing a treatment option for class I and II obese patients.

Methods:

Patients consecutively operated from 1 October to 28 February 2022 with a 3D-HD endoscopic visualization system (MDTK MonoStereo®; Taiwan) were prospectively collected. Patients demographic data, preoperative anthropometrics data; operative time, number of sutures, intraoperative and postoperative complications, and follow-up data were prospectively recorded and retrospectively reviewed. Additionally, a questionnaire was completed by the endoscopist evaluating the subjective impression of visualization and handling

Results:

Fourteen patients (age 27 to 68-years-old, 3 male) underwent endoscopic sleeve gastroplasty using D-HD endoscopic visualization system. Mean preoperative body mass index was 34kg/m2, mean operative time was 55 minutes with mean 5 sutures (4-7) used. No 30-day complications were reported and patients lost 8% total body weight loss after 1 month and 14% after 3 months (7 patients). The endoscopist reported better visualization, better depth perception and no nausea with the 3D visualization system.

Conclusion:

3D-HD endoscopic visualization system seems to provide potential advantages in endoscopic sleeve gastroplasty. This initial experience is promising but must be confirmed by larger series.

O-420

THREE-YEAR OUTCOMES OF THE LONG LIMB TRIAL. LONG VS STANDARD BILIOPANCREATIC LIMB IN THE ROUX-EN-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Short-term outcomes of the LONG LIMB Trial, investigating impact of long (LL, 150cm) vs standard (SL, 50cm) biliopancreatic limb with a fixed 100cm alimentary limb in Roux-en-Y gastric bypass (RYGB), showed no difference in post-operative glycaemic control, gut hormones profiles or weight loss at one year.

Objectives:

Further follow-up of this randomized controlled trial examined whether intestinal adaptation would cause differences in metabolic outcomes between the two procedures in the long term.

Methods:

18 patients from SL and 17 from LL RYGB underwent mixed meal tolerance tests with nutritional shakes and/or clinical follow-up at 3 years post-operatively.

Results:

At three years following RYGB, trial participants achieved a total body weight loss of 28% ± 9 in SL and 23% ± 8 in LL group (p=0.07), with weight of 82 ± 14 and 88 ± 19 kg (p=0.3), BMI of 30 ± 5 and 33 ± 7 kg/m2 respectively (p=0.1). HbA1c was 47 ± 10 in SL and 45 ± 7 mmol/mol in LL (p=0.7) with T2DM remission rate of 61% and 65%. There were also no statistically significant differences between the groups in fasting and post-prandial glucose concentrations and insulin secretion in the mixed meal tolerance tests.

Conclusion:

Long-term results of the LONG LIMB Trial support evidence that the elongation of the biliopancreatic limb in RYGB to 150cm does not result in superior metabolic outcomes in terms of glucose excursions, insulin secretion nor clinical outcomes.

O-421

THREE-YEARS OUTCOMES OF SLEEVE GASTRECTOMY: EXPERIENCE OF A SINGLE HIGH-VOLUME CENTER SPECIALIZED IN BARIATRIC SURGERY

Sleeve gastrectomy

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Background:

Laparoscopic Sleeve Gastrectomy (LSG) has been the most frequently performed bariatric procedure worldwide since 2014.

Objectives:

This retrospective study aims LSG in terms of weight loss, resolution of comorbidities, adherence to follow up based on data gained from our center. Secondary end-points included evaluation of LSG in terms of safety and effectiveness.

Methods:

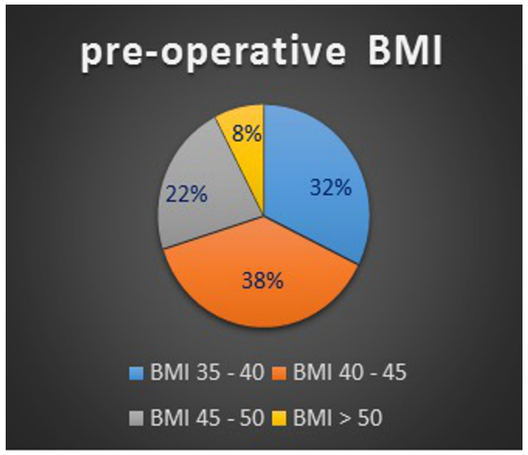
From September 2017 to December 2020 a total of 751 LSG (556 women and 195 men) were performed with the same technique in our center. Preoperative data (age, Body Mass Index (BMI), hypertension, dyslipidemia, diabetes, Gastro-Esophageal Reflux Disease (GERD), Obstructive Sleep Apnea Syndrome (OSAS), previous intragastric balloon (BIB), operative and perioperative data (operative time, numbers of trocars used, conversion rate, variation of hemoglobin levels and postoperative blood transfusion) and postoperative data (mean hospital stay, 90-day complication rate, adverse events and mortality) were analyzed. Weight loss and resolution of comorbidities outcomes were processed during 2 years follow-up (f-u).

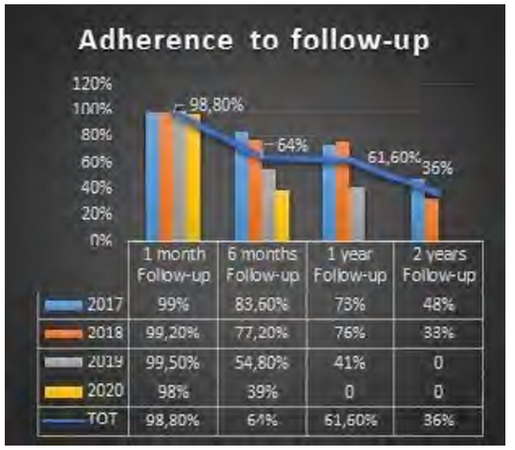
Results:

Mean age and BMI were 43,6 years and 42,6 kg/m2, respectively; 41 patients (5.45%) placed BIB before surgery (mean BMI 54,6 kg/m2). The most common comorbidity was hypertension (32,42%) followed by diabetes (15,31%), OSAS (15,05%), dyslipidemia (13,45%) and GERD (13%). A higher prevalence of OSAS was found in patients undergoing BIB placement (21,95% vs 15,05%). Mean operative time was 72 min, 3 trocars LSG was performed in 0% of cases in 2017 vs 59% in 2020 and only one patient was converted from laparoscopy to laparotomy. The variation between preoperative and postoperative hemoglobin levels was 0,6 g/dl and blood transfusions were performed in 3,3% of patients. Mean hospital stay was 2,4 days and the overall 90-day complication rate was 5,3%: the incidence of major complications was 2,2% (according to the Clavien–Dindo classification) and two patients died after surgery (mortality rate 0,3%). Processing the f-u data we found the mean BMI decreased from 42,6 to 28,2 kg/m2 with a excess weight loss percentage (%EWL) of 76,1% in the first year after surgery; mean BMI was 28,7 kg/m2 and EWL was 70,2% two years after surgery. The majority of obesity-related diseases were improved (remission of hypertension occurred in 70,6%, 76% and 77% of patients had discontinued diabetes and dyslipidemia medications respectively). The 96% of patients with preoperative GERD had no reflux symptoms at 12-months f-u.; but the 8% of patients not symptomatic in the preoperative phase developed reflux after surgery. The participation of f-u program decreased significantly over the years: The 12-months f-u recorded a participation rate of 61,6% vs 36% in the 24-months f-u.

Conclusions

In this multi-surgeon, single-center experience, LSG was a safe and effective bariatric procedure with a low complication rate. Adherence to follow-up remains to be improved.





O-422

THROMBOPROPHYLAXIS WITH ENOXAPARIN FOR SUPER-SUPER OBESE PATIENTS. IMPLICATIONS FOR A SEX-SPECIFIC DOSAGE REGIMEN

Cardiovascular risk and bariatric surgery

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Background/Introduction:

Risk factors for developing a venous thromboembolic event include obesity and surgery. Currently the optimal dosage for Enoxaparin in obese subjects is still up for debate and needs further investigation.

Objectives:

In this prospective study we measured the serum Anti-factor Xa activities (aFXa) in obese (Body-mass-index (BMI) 35-60 kg/m²) and super-super obese (BMI≥60 kg/m²) patients undergoing bariatric surgery to test our dosage regimen for these patients.

Methods:

Patients undergoing bariatric surgery were administered enoxaparin twice daily as thromboprophylaxis. The patients were split into a high and a low BMI group. We chose a BMI of 60 kg/m² or above for administering 60 mg Enoxaparin per dose, patients with a lower BMI received 40 mg per dose. Anti-factor Xa activity was measured after the 5. subcutaneous injection. The primary outcome was the anti-factor Xa activity, as a secondary outcome we detected major complications. Furthermore, we correlated clinical parameters with the aFXa to find influencing factors.

Results:

We included 99 patients in this study. Patients in the high BMI group (n=11) had a significant higher weight (143.6 ± 24.3 kg vs 197.6 ± 34.8 kg) and waist circumference (142 ± 14 cm vs. 164 ± 13 cm). Interestingly we detected no significant difference in terms of anti-factor Xa activity (0.18 ± 0.07 IU/ml for the lower BMI group vs. 0.18 ± 0.08 IU/ml for the higher BMI group). Overall, 66 patients had a lower activity than desired, while 64% of the low BMI group did not reach the target and 82% of the high BMI group missed the desired range. However, none showed signs of postoperative bleeding. We found the strongest correlation between weight and aFXa. This was especially true for women in the low BMI group, while men of this group showed no significant correlation.

Conclusion:

Based on our data a more aggressive thromboprophylaxis approach seems to be required for super-super obese patients. Furthermore, individual dosage regimen for men and women should be considered in the future.

O-423

TIME COURSE PROTEOMICS OF ARTERIAL AND PORTAL VENOUS CIRCULATIONS FOLLOWING ROUX-EN-Y GASTRIC BYPASS SURGERY

Basic science and research in bariatric surgery

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Background/Introduction:

Unraveling the mechanisms by which Roux-en-Y gastric bypass (RYGB) elicits its therapeutic benefits can potentially lead to the development of effective medications for management of obesity and diabetes mellitus. Moreover, identifying perturbed circulating proteins secondary to RYGB surgery may provide novel insight into key signaling events that contribute to the therapeutic outcomes of the surgery. Omics approaches were recently used to identify potential circulating factors that mediate the effects of RYGB surgery. However, the mechanistic role of secretome in mediating the effects of surgery has remained elusive due to the dynamic nature of physiological events which can occur from 1-2 days to weeks or months following RYGB surgery.

Objectives:

The objective of this study was to perform a time-course plasma proteomics analysis in systemic arterial circulation (SAC) and portal venous circulation (PVC), in diet-induced obese rats following RYGB or sham surgery.

Methods:

Diet-induced obese rats underwent RYGB or sham surgery. Pathways enrichment and Protein Temporal Dynamics analyses were done on blood samples collected from SAC and PVC at week 1 (POW1), month 1 (POM1), and month 3 (POM3), which corresponded to the immediate, midterm, and long-term effects of the surgery, respectively.

Results:

The number of significantly perturbed proteins was highest in POW1 (~38% in SAC and 36% in PVC), followed by POM1 (~25% in SAC and 22% in PVC), and POM3 (~17% in SAC and 14% in PVC). RYGB led to strong time-dependent perturbations in a large number of proteins that are associated with both lipid and glucose metabolism. In addition, proteins related to extracellular matrix homeostasis were amongst the most highly dysregulated proteins with significant alterations several weeks after RYGB.

Conclusion:

The majority of highly dysregulated proteins after RYGB, exhibited strong time-dependent expression dynamics which closely overlapped with the major physiological events following RYGB. In addition, we observed significant dysregulation of proteins related to several signaling and functional pathways that are not intuitively associated with metabolic pathways. Taken together, the present investigation provides a resource for a broad and multi-dimensional analysis of humoral factors that contribute to RYGB's potent therapeutic effects.

O-424

TIMING OF ANTI-OBESITY MEDICATIONS FOR THE TREATMENT OF WEIGHT LOSS PLATEAU FOLLOWING METABOLIC SURGERY

Management of weight regain after surgery

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Objective:

The aim of this study was to assess the timing of anti-obesity medications for the treatment of weight loss plateau following metabolic surgery.

Methods:

We conducted a retrospective review of the electronic medical records of 115 patients who underwent primary metabolic surgery between March 2019 and February 2020 at a single institution. We prescribed anti-obesity medications to 21 patients for the treatment of weight loss plateau or excessive appetite. According to the timing of medication, we divided the group into 'early medication group' (EM) of 7 patients using drugs within 6 months after surgery and 'late medication group' (LM) of 12 patients after 7 months post-surgery. We compared percentage of total weight loss (%TWL) between three groups: EM, LM and 'no medication group' (NM) of 96 patients. We also compared %TWL between 'weight loss plateau group' (WLP) of 12 patients and excessive appetite group' (EA) of 7 patients depending on the purpose of medication use and between 'under observation group' (UO) of 89 patients and 'follow-up loss group' (FL) of 26 patients by classifying two groups depending on whether the patient has not more than once at each scheduled out-patient visits.

Results:

Mean follow-up period is 12.3±5.3 months and %follow-up was 77.4% during study period. Baseline body weight of EM, LM and NM was 115.3±28.3, 117.6±25.8, and 117.5±26.0kg, respectively (p=0.957). There were no statistical differences in gender, mean age, mean follow-up period, %follow-up and type of surgery among 3 groups. %TWL of EM at 1, 3, 6, 9, 12, 15, and 18 months after surgery were 11.2±2.7, 18.9±5.7, 20.4±6.1, 27.4±6.3, 29.6±6.5, 32.8±2.2, and 31.9±4.1%, respectively. %TWL of LM at each point were 10.5±2.0, 16.4±5.3, 19.3±7.1, 19.4±6.5, 20.3±7.9, 22.2±5.6, and 22.0±3.3%, respectively. %TWL of NM at each point were 9.8±2.7, 17.7±3.9, 24.2±5.5, 27.3±6.4, 29.1±7.5, 30.6±7.3, and 26.8±10.9%, respectively. %TWL of NM were significantly higher than other two groups at 6 months (p=0.004) and %TWL of NM and EM were significantly higher than LM at 9, 12 and 15 months (p=001, p=0.002 and p=0.007, respectively). %TWL of WLP, EA and NM were 20.8 ± 2.0, 30.9 ± 4.0 and 26.8 ± 10.9 at 18 months after surgery, respectively with no significance. %TWL of UO was higher than FL at each visit within 6 months after surgery.

Conclusion:

It would be advantageous to use anti-obesity drugs at an early timing for patients who have difficulty losing weight or excessive appetite after metabolic surgery.

Figure 1. %Total weight loss depending on the timing of anti-obesity medication after metabolic surgery

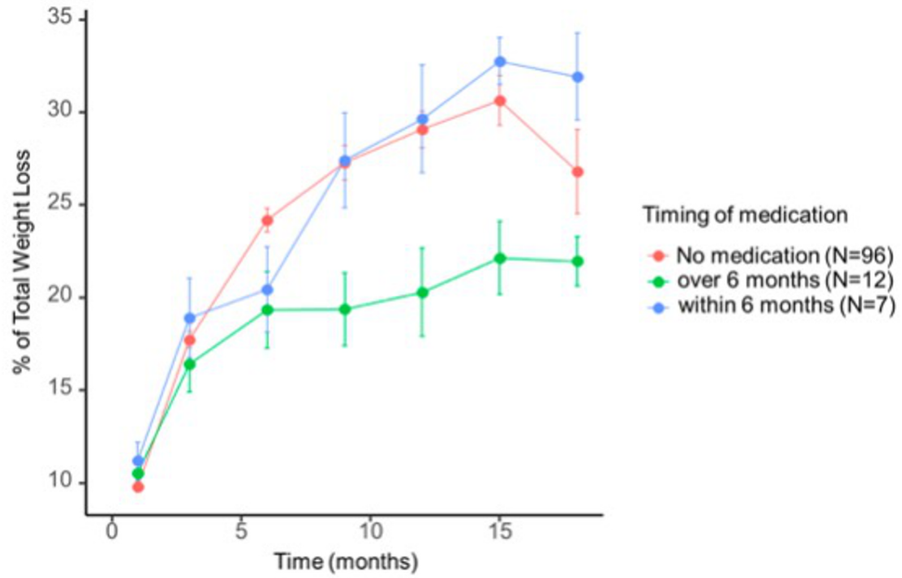
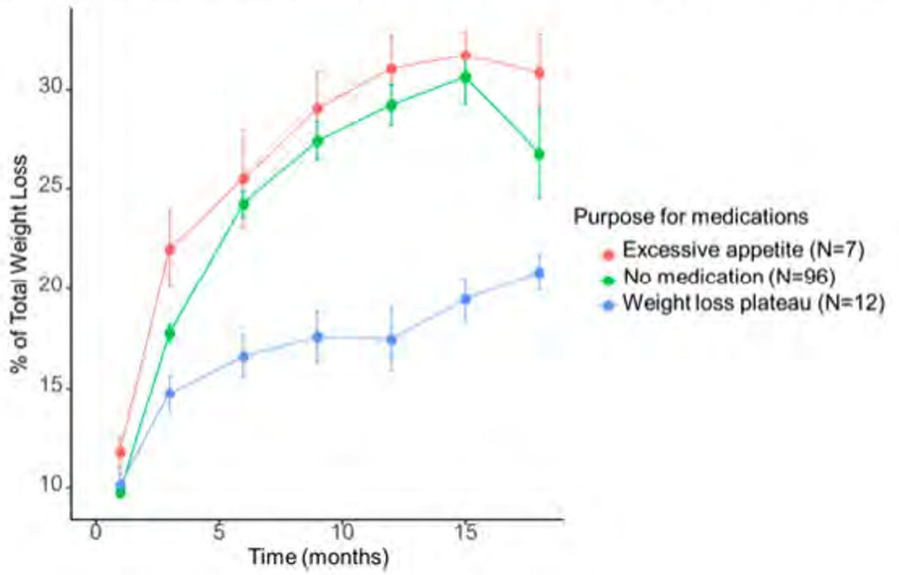


Figure 2. %Total weight loss depending on the purpose for anti-obesity medications after metabolic surgery



O-425

TO STUDY THE EFFECT OF BARIATRIC SURGERY ON URINARY INCONTINENCE IN OBESE INDIVIDUALS

Basic science and research in bariatric surgery

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Introduction:

There is sparse evidence about the beneficial effects of bariatric surgery on urinary incontinence (UI) in obese individuals. Establishing such evidence would mean UI in an obese individual would be treatable through bariatric surgery alone along with the benefits of significant weight loss and comorbidity resolution AIM To study the impact of bariatric surgery on UI in obese individuals.

Methods:

Patients undergoing bariatric surgery between June 2018 to June 2019 (n=148) in our institute were screened using the ICIQ-UI-SF questionnaire. Patients found to have UI were identified and followed up at 3, 6 and 12 month post surgery and the ICIQ-UI-SF questionnaire was applied at each follow up. Using the questionnaire the patients with UI were classified as having stress, urge and mixed type of UI. In follow up the change in scores and prevalence were compared. Also number of pads changed per day was recorded. Weight loss, comorbidity resolution and improvement were also studied.

Results:

A total of 148 patients(F-114;77.02%,M-34;22.97%) underwent bariatric surgery between July 2018 and July 2019.41 patients had UI of which 29 (70.7%) had stress incontinence, 8 (19.5%) had urge incontinence and 3 (7.3%) had mixed UI. It was found gender was the most important predictor of having UI in obese individuals (OR:8.33;RR:5.79). The prevalence of urinary incontinence decreased from 27.7% at baseline to 3.4% at 1 year($p<0.001$).The mean ICIQ UI SF score improved from 8.76 at baseline to 0.66 at 12 months of follow up, $p < 0.001$ for all follow ups. The proportion of patients with UI using any number of pads decreased from 92.7% (n=38) at baseline to 9.8 % (n=4) at 12 months ($p<0.001$). There was a decrease in the number of patients having moderate to very severe urinary incontinence from 35 (85.4%) at baseline to 2 (4.9 %) at 12 months ($p<0.001$). Proportion of patients showing resolution was highest among the stress incontinence group at 96.5%. Presence or absence of diabetes mellitus, hypertension and hypothyroidism did not significantly influence baseline or follow up ICIQ-UI-SF scores. Mean percent excess BMI loss was 68.9% at 1 year.

Conclusion:

Bariatric surgery leads to definite improvement in UI in obese individuals which is well sustained at 1 year follow-up. Patients with stress UI derived better outcomes post bariatric surgery. Bariatric surgery should be recommended for morbidly obese individuals with UI.

O-426

TOTALLY ROBOTIC SADI-S – SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS WITH SLEEVE GASTRECTOMY FOR SUPEROBESE PATIENTS- COMPARATIVE CLINICAL SERIES TO LAPAROSCOPIC SADI

SADIs

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Background:

Patients with super-superobesity are of difficult primary bariatric management. Issues regarding exposure and technical difficult anastomosis sometimes led to the choice of a 2-stage procedure.

Objectives:

Robotic SADI-S procedure may allow safe surgery by overcoming technical issues in patients with BMI>50kg/m2, as a revisional or primary procedure.

Methods:

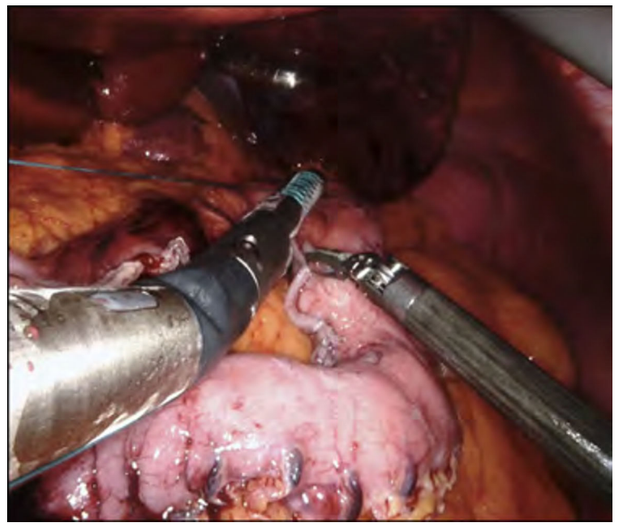
Patients with BMI over 50 kg/m2 without reflux symptomatic were scheduled for robotic SADI-S procedure, and the results compared to our series on laparoscopic SADI for the same indications. The video describes key issues to perform this technique safely. 1. Position supine, six trocars are inserted, Da Vinci arms are docked to the left shoulder of the patient. 2. The omentum is separated from the greater curvature close to the stomach using DaVinci sealer and sleeve gastrectomy is performed. 3. The duodenum is stapled. 4. The small bowel loop for the anastomosis is identified going backwards 300cm from the ileocecal junction. 5. Anastomosis is performed in a 2-row fashion or using linear stapler. Differences and key points of the robotic technique are compared to the laparoscopic SADI technique.

Results:

Totally robotic SADI-S was performed in this selected group of patients and the technical issues were identified. The anastomosis is performed using a two-layer hand-sewing suture. Operative time (mean 138min) is not extended compared to laparoscopic procedure (mean 144min). Complication rate was low for the two groups, mean postoperative stay was a mean of 3 days.

Conclusions:

This new technique is a promising option to provide effective therapy for obesity patients classified as superobese. Besides the operative times, there was no differences in performance of robotic SADI-S in one or two step procedure. The indication for a 2-step strategy should be based on the technical complexity and clinical status of the patient.



O-427

TOTALLY STAPLED MINI GASTRIC BYPASS

Enhanced recovery in bariatric surgery

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Asian Bariatrics, Asian Bariatrics Ahmedabad, India.

Introduction:

Mini Gastric bypass is a safe and accepted Bariatric procedure, yielding good weight loss and metabolic control to patients.

Objectives:

Presenting our technique of Totally stapled Mini Gastric Bypass- which comes with significant ease of performance and less total operative time.

Method:

A retrospective analysis was done with 100 cases in each arm.

Parameters observed on 100 cases of totally stapled MGB are: Operative time, intra-op blood loss, post-op leaks, dumping syndrome, post-op symptomatic dyspepsia (requiring UGI endoscopy study) and Marginal ulcers.

The current technique involves creating a 5 cm stoma with a stapler and subsequent closure of enterotomy site with another stapler.

The above parameters are compared with a retrospective data analysis of hundred cases of Mini Gastric Bypass performed with our previous technique of creating a pouch-jejunum stoma of 4 cms size with outer seromuscular layer closure with 2-0 Surgidac over the stapled pouch-jejunal anastamosis and enterotomy closure with 2-0 polysorb.

Results:

Totally stapled MGB patients had significantly less mean operative time. Avoidance of foreign material along the mucosal side of anastomosis leads to improved tissue healing which translates clinically into reduced marginal ulceration and reduced symptomatic dyspepsia.

Conclusion:

Totally stapled MGB is a good technique for easy, effective and safe procedure.

O-428

TRANS-GASTRIC ERCP FOLLOWING ONE-ANASTOMOSIS GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Introduction:

One-anastomosis-gastric bypass (OAGB) is a common procedure in bariatric surgery nowadays. Several studies are supporting its efficacy in weight reduction and metabolic control beside being a safe procedure. However, debates are still present regarding the difficulty to access the remnant stomach and duodenum in the future if needed.

Objective:

To delineate the outcome of trans-gastric Endoscopic Retrograde Pancreatography (ERCP) in the treatment of choledocholethiases in patients who previously underwent OAGB.

Methods:

We prospectively followed six patients who underwent an ERCP in our unit to access the biliary tree in order to treat choledocholethiases/ cholangitis following OAGB.

Results:

All patients had underwent OAGB previously (1 to six years prior to presentation). Four were female and two were males. Four of them presented with choledocholethiases, one presented with choledochocholethiases and cholecystitis while the last presented with cholangitis. All patients were treated by concomitant trans-gastric ERCP and laparoscopic cholecystectomy. All patients did well in the postoperative period and were discharged home in a mean of 3 days. No postoperative complications or mortality noted in this series.

Conclusions:

Trans-gastric ERCP seems to be a good option to access the remnant stomach and duodenum following gastric bypass surgery. Laparoscopic access to the stomach makes it a simple procedure to manage biliary tree obstruction.

O-429

TRANSNASAL ESOPHAGOSCOPY FOR POST-OPERATIVE SURVEILLANCE AFTER SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Objectives:

To determine if postoperative transnasal endoscopy (TNE) following bariatric surgery can be used to assess for postoperative esophagitis following Sleeve Gastrectomy

Background:

Sleeve gastrectomy (SG) is associated with a high rate of reflux. IFSO has guidelines that recommend postoperative endoscopic surveillance following SG.

Methods:

15 bariatric surgery patients were evaluated for the feasibility of utilizing TNE for postoperative examination following sleeve gastrectomy in an office setting. No sedation was required. Preparation of the nasal passage was accomplished using Afrin nasal decongestant and 4% lidocaine spray. The endoscope was advanced into either the right or left nasal passage and advanced along the floor of the nares until the soft palate was visualized. Endoscopic evaluation of the proximal, mid and distal esophagus was accomplished. The GE junction was evaluated for any evidence of Barretts esophagus.

The average procedure length was 11 minutes 45 seconds. All patients were discharged within a few minutes of their procedure.

No complications occurred. Patient satisfaction surveys were completed. Each patient felt the technology was superior to having to undergo sedation. All patients studied would recommend the procedure to a friend. All the procedures were completed without early termination.

Following this initial 15 patients, another 115 TNE's for surveillance endoscopy after SG were completed.

Results:

115 patients underwent TNE evaluation for esophageal surveillance without sedation Endoscopic examination was performed and completed in less than 7 minutes in the cohort group. 114 patients were able to complete the examination. Only 1 patient requested the procedure be terminated before examination of the distal esophagus could be completed secondary to an anxiety attack. 4 patients underwent biopsies at the time of TNE for suspected esophagitis and tolerated the biopsies without difficulty.

Conclusions:

Post-operative surveillance following SG can be performed without sedation in an office setting. TNE offers economical and easy access for endoscopic surveillance following SG TNE allows visualization of the distal esophagus and is well tolerated. Routine TNE in an office setting can increase access to endoscopic evaluation and may improve outcomes following sleeve gastrectomy. Earlier diagnosis of distal esophagitis might avoid progression to Barrett's esophagus.

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O-430

TRENDS IN ENERGY EXPENDITURE IN PATIENTS UNDERGOING ROUX-EN-Y GASTRIC BYPASS SURGERY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Long term maintenance of weight loss following bariatric surgery is known to be influenced by resting energy expenditure (REE) and diet induced thermogenesis (DIT). Although it is recognised that fat free mass (FFM) contributes to REE to a greater extent than fat mass (FM), there has been relatively little work looking at the REE:FFM ratio and its overall effect on or relationship to weight loss.

Objectives:

To assess weight loss, REE and REE:MMT ratio in patients undergoing Roux-en-Y Gastric Bypass (RYGB) pre operatively and up to one year post-operatively.

Methods:

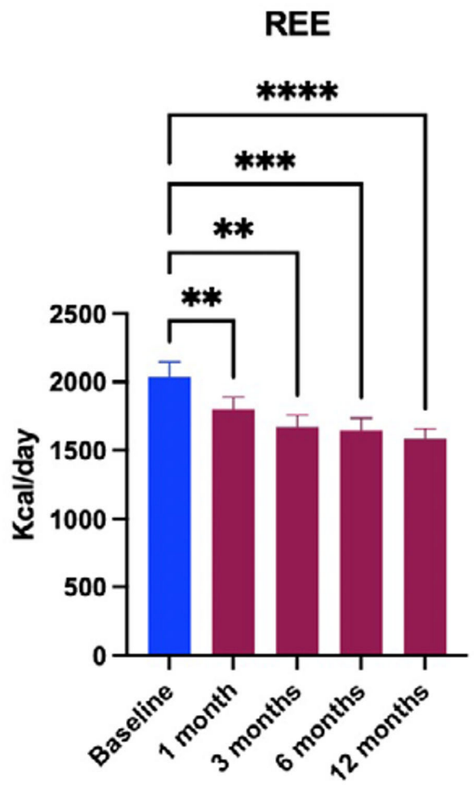
20 patients undergoing RYGB were followed up for one year. Weight, REE and FFM were measured at baseline (pre-operatively), and at 1, 3, 6 and 12 months using the Tanita BC-418MA body composition analyser. Results were analysed using one way ANOVA to compare results at 1, 3, 6 and 12 months to baseline.

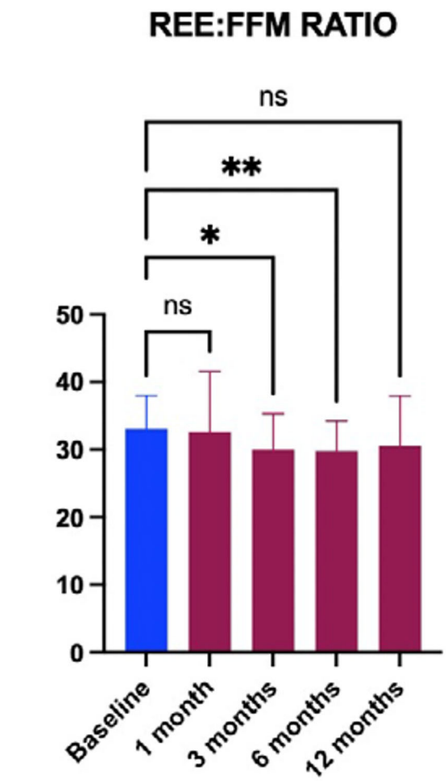
Results:

There were 16 females and 5 males. Mean age was 48. Overall mean weight in kilograms (kg) decreased significantly over the course of one year (117.8kg vs 80.6kg p =<0.0001). Mean REE decreased significantly at all times points compared to baseline (2037kcal in 24 hours at baseline vs 1583kcal in 24 hours at 12 months). DIT initially increased at 3 months compared to baseline, but then decreased at one year (229.5kcal vs 354.7kcal vs 263.3kcal respectively). This difference was not significant, however. FFM decreased significantly from baseline to 12 months (62.17kg vs 53.06kg p=<0.0001). REE:FFM ratio decreased significantly at 3 months (29.09) and 6 months (28.75) compared to baseline (33.02 p=0.028), there was no significant difference at 12 months (30.56 p=0.215).

Conclusions:

Our findings indicate a decrease in weight, REE and FFM over 12 months in RYGB patients. REE:FFM ratio was also significantly decreased at 3 and 6 months. This suggests that the reduction in REE may either be independent of FFM (i.e. another factor is contributing to REE decrease) or the inherent metabolic activity of the FFM in these post-operative patients has decreased. Further studies are required to investigate the relationship of FFM to REE and weight loss.





O-431

TROCAR SITE DEFECTS AFTER BARIATRIC SURGERY: SHOULD WE CLOSE? PROSPECTIVE OF BARIATRIC SURGEONS AND REVIEW OF CURRENT LITERATURE

Post-operative complications

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Introduction:

Port or Trocar site hernia (TsH) is a type of incisional hernia that occurs at port or trocar sites after laparoscopic surgeries (1-6%). It is a rare but potentially dangerous complication after laparoscopy that can lead to various consequences and possible complications.

Objectives:

To survey and analyze the prospective and clinical practice of bariatric surgeons about necessity of closure of port site defects after different bariatric procedures.

Methods:

A blinded survey is being sent to surgeons in different bariatric societies all over the world, including but not limited to IFSO, ASMBS and ACS members in addition to other local and national societies.

Results:

The survey included different questions about the number, site, technique of closure of these defects if present, in addition to the frequency and management of TsH in their practice. The survey is still ongoing and the results will be ready by the start of July (before presenting it in IFSO 2022). A comprehensive review of current literature is also done and will be presented and compared with other results.

Conclusion:

A final conclusion will be obtained and presented after analyzing different surgeon's practices and comparing it to the current literature.

O-432

TWELVE MONTH FOLLOW-UP OF ONE ANASTOMOSIS GASTRIC BYPASS AS CONVERSION SURGERY OF LAPAROSCOPIC ADJUSTABLE GASTRIC BAND

Adjustable gastric banding

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Introduction:

Obesity is one of the main public health problems in the world. Bariatric surgery has proven its effectiveness in reducing and controlling weight but at the same time it can fail to achieve its Objective: Laparoscopic Adjustable Gastric Band (LAGB) was a technique performed in the 90s as a restrictive alternative to the bypass that quickly become very popular, however, long-term studies reveal that up to 61% of patients later required another bariatric procedure due to weight regain or complications.

Objective:

To describe the result of the One Anastomosis Gastric Bypass (BAGUA-OAGB) as conversion surgery at 12 months of the procedure, after the demonstrated failure of LAGB in patients that have been monitored for more than 2 years at the "Dr. Alberto Cormillot" Obesity and Metabolic Disease Center at Malvinas Argentinas.

Methods:

Observational, prospective, longitudinal, and descriptive monitoring study of patients with obesity operated initially with LGBA and subsequent conversion surgery of BAGUA-OAGB, taking a sample of 150 patients of which 21 met the inclusion criteria.

Results:

It was found that 12 months after the BAGUA-OAGB procedure, 85,71% of the patients achieved control in weight reduction, compared to the LAGB patients that did not achieve the goal during the follow-up period of more than 2 years.

Conclusión:

The intervention through BAGUA-OAGB as conversion surgery in patients with persistence of their obesity, achieved at 12 months a significant weight reduction with OR of 0.25 and p = 0.0006, showing thus statistical significance.

O-433

TWO YEAR MEDICINE REDUCTION RESULTS OF A DUODENAL-ILEAL ANASTOMOSIS WITH SELF-FORMING MAGNETS IN A SUTURELESS NEODYMIUM ANASTOMOSIS PROCEDURE

Emergent technology, new non standard and bariatric surgery

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Background:

Obesity and type 2 diabetes mellitus (T2DM) rates have increased worldwide in recent years. In obese patients with T2DM multiple oral antidiabetic drugs (OADs) are often needed for adequate glycemic control. Metabolic surgery can help stopping or reducing OADs on these patients.

Objectives:

We aimed to assess 2-year metabolic results on obese patients with T2DM after duodenal-ileal anastomosis without stomach restriction through self-assembling laparo-endoscopic magnets.

Methods:

Between 2019 and 2020, we conducted an open-label, prospective, single-arm study including obese patients (BMI 30-50 kg/m2) with T2DM. The ileal magnets were deployed laparoscopically by performing a 5mm enterotomy at 300cm proximal from the ileocecal valve. The duodenal magnet was endoscopically deployed in the first portion of the duodenum. Both magnets were coupled under laparoscopic and fluoroscopic guidance. The primary endpoints were HbA1c reduction and weight loss at 24 months. The secondary endpoint was the percent reduction of OADs used at 24 months. Patients did not receive any additional weight loss or nutritional counseling as part of the protocol.

Results:

A total of 8 patients were included; the median age was 51.5 (34-65) years, and 62.5% were females. Median BMI was 38.8 (35-47.9) kg/m2. The mean duration of the procedure was 78.7 min (range: 52-114). No intraoperative complications were recorded. A protocol that required overnight stay led to a mean hospital stay of 24 hours. Magnets were expelled at a median of 26 days after the procedure with no associated complications. HbA1c reduced below 7 in 6 (75%) patients (p=0.0001) at 12 months and 5 patients below 6,5 at 24 months (p=0.002). Greater than 5% total body weight loss was observed in 6 (75%) patients at 12 months (p=0.005) and a 15% in 5 (62.5%) patients at 24 months (p=0.017). The mean number of OADS were 1.9 (1-4) and 1 (0-3) at baseline and 24 months, respectively (46,7% reduction, p=0.13). There was a 70% total reduction in total OAD (mg) (p=0.014). Three patients (37,5%) were free of OADs 24 months after the procedure. From the 5 patients taking antihypertensive medications, 4 (80%) stopped taking them after the procedure and remained with normal blood pressure parameters.

Conclusions:

Duodenal-ileal anastomosis with self-assembling magnets in obese patients with T2DM is associated with satisfactory metabolic outcomes.

O-434

UNEMPLOYED BARIATRIC PATIENTS – DOES THE PROCEDURE (SLEEVE GASTRECTOMY OR ROUX-EN-Y GASTRIC BYPASS) IMPACT THE RETURN TO WORK?

Basic science and research in bariatric surgery

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[1]Department of orthopedic and trauma surgery, SRO Langenthal, Switzerland, Bachwiesenring, Germany; [2]Clinic for General and Visceral Surgery, Marien Hospital Witten, Witten, Germany; [3]Stiftungsprofessur für Arbeitsmedizin und betriebliches Gesundheitsmanagement, Witten, Germany; [4]Clinic for General and Visceral Surgery, Knappschaftskrankenhaus Bottrop, Bottrop, Germany.

Background:

Obesity and its comorbidities are risk factors for inability to work. Obese patients are stigmatized and affected by discrimination; simultaneously a limited physical performance due to the medical condition exists. As a result, a vicious circle of unemployment, social isolation, reduced physical resilience and increasing obesity may result. Bariatric surgery might help to intervene this circle by improving patients' health and return to work. The most common bariatric procedures are sleeve gastrectomy (SR) and Roux-en-Y gastric bypass (RYGB).

Objectives:

In this survey the influence of the bariatric procedure on return to work in unemployed bariatric patients is analyzed.

Methods:

The data of a German nationwide multicenter registry StuDoQ | MBE by the German society for general surgery from 2015 - 2020 are evaluated. Patients who underwent a primary bariatric operation during this period whilst being unemployed or unable to work are surveyed. As a result, 978 patients aged 18 to 65 who received a SG or RYGB are included. Primary endpoint is any form of return to work within one year after treatment. The surgical procedure (SG vs. RYGB) acts as the binary main treatment variable. A multivariate binary logistic regression model was performed in which age, gender, vocational training and excess weight loss act as third variables and Odds Ratio (OR) and adjusted ORs were determined.

Results:

Of the surveyed patients 26% were male, 74% female. The average age was 42.28 ± 11.66 years. 42 % received a RYGB, 58% a SG. 3% graduated from university, 36% completed vocational training and 33% are occupationally non-skilled. The average weight loss was 46.38 ± 17.14kg (55.12 ± 17.23% of excess weight). One year after bariatric surgery 42% of the patients with SG and 38% with RYGB reached a return to work. The odds ratio for return to work is 1.18 (p = 0.21) non-significant in favor of SG. The adjusted OR is 1.15 (p = 0.33), indicating that there is no significant influence of the difference between the two surgical procedures on the outcome return to work after one year.

Conclusion:

One year after surgery, there is a positive effect regarding return to work in bariatric patients: 39.88% of the previously unemployed subjects in the cohort study were employed. Procedure-specific influences could not be determined.

O-435

USE OF SODIUM-GLUCOSE CO-TRANSPORTER 2 INHIBITORS IN PREOPERATIVE PREPARATION OF PATIENTS FOR BARIATRIC SURGERY

A critical review of the need, or lack thereof, of preoperative weight loss

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Introduction:

Preoperative Preparation and weight loss prior to bariatric surgery is well established to improve safety and outcome of surgery. However, pharmacotherapy for preoperative preparation is being used in the last few years. The published data of use of pharmacotherapy is scarce.

Objective:

Evaluate the benefits of Dapagliflozin in preoperative preparation.

Methods:

100 patients (64 females, 36 males) with a mean BMI of 40.2kg/m2, mean age 47 years and type2 diabetes were followed prospectively during preoperative preparation, 50 with low calorie diet (LCD) and 50 with LCD and dapagliflozin 10mg daily for 2 weeks prior to surgery. Preoperative weight loss was compared in these 2 groups. Data was analyzed statistically.

Results:

Patients in LCD and Dapagliflozin and LCD groups lost 7kg and 12 kg weight respectively. Patients in dapagliflozin group lost an average of 5kg more than the group with only LCD and the difference was statically significant.

Discussion:

SGLT2 inhibitors induce renal glycosuria there by inducing loss of calories and weight loss. This mechanism can be beneficial in preoperative preparation of patient with diabetes.

Conclusion:

SGLT2 inhibitors induce weight loss and improvement in glycemia as well as blood pressure. They can be used to augment weight loss with calorie diet in preoperative preparation

O-436

VOICE ANALYSIS USING MACHINE LEARNING ALGORITHMS: A PILOT STUDY OF CLINICALLY RELEVANT ATHEROSCLEROTIC PLAQUES IN OBESE PATIENTS

Artificial intelligence

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Background / Introduction:

Each person has a unique voice that is influenced by the state of our internal organs, brain activity and other conditions. Variation of specific vocal parameters have been demonstrated to correlate with different pathologic conditions.

Objectives:

The objective of this study was to test whether voice analysis through Machine Learning algorithms could detect the presence of clinically relevant atherosclerotic plaques in obese patients.

Methods:

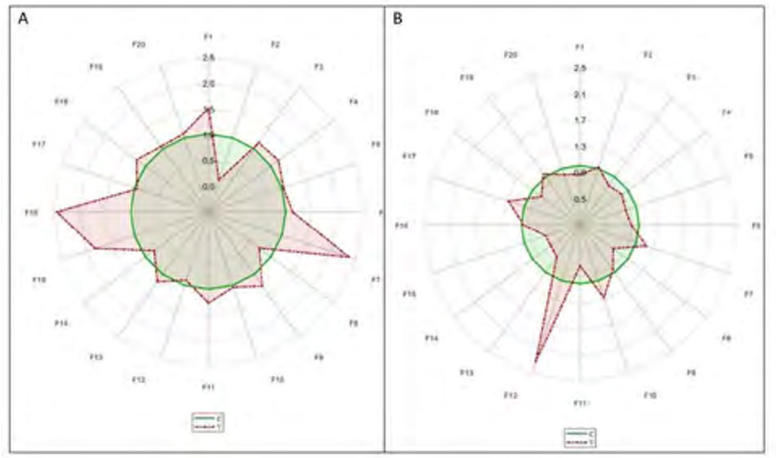
Voice samples of healthy subjects and of patients with a BMI > 25 Kg/m2 and known atherosclerotic plaques were recorded during sustained vowel emission in different vocal tasks, using a high-definition audio recorder. Voice samples underwent sound signal analysis, including power spectral analysis and support vector machine classification (SVM), considering 6139 voice features included in the INTERSPEECH2016 Computational Paralinguistics Challenge (IS ComParE 2016) feature data set. Validation of this technology has been already demonstrated in previous clinical studies.

Results:

50 subjects were enrolled in the study. Of the 19 patients, 11 were males and 8 females with a mean age of 71 years and a mean BMI of 29.09 Kg/m2. Among the 31 controls, 21 were females and 10 males with a mean age of 55 years and mean BMI of 22.76 Kg/m2. Voice analysis with SVM classifier was able to objectively identify obese patients with atherosclerotic plaques with an accuracy ranging from 83.33% to 96.67% according to the different vocal tasks analyzed.

Conclusion:

Voice spectral analysis through SVM classifier accurately identified obese patients with atherosclerotic plaques. This is an early demonstration of the capabilities of such technology. Further studies are ongoing to validate its application to other clinically relevant features, with the aim of providing a comprehensive tool that would potentially support surgeons and clinicians in their daily practice.



O-437

WEIGHT LOSS AFTER LAPAROSCOPIC GASTRIC BYPASS AND LAPAROSCOPIC SLEEVE GASTRECTOMY: A 5-YEAR STUDY WITH 100% FOLLOW UP

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Laparoscopic Roux-en-Y gastric bypass (LGB) is the gold standard intervention for surgical management of obesity. Laparoscopic sleeve gastrectomy (LSG) has become increasingly popular in the past decade. Long-term data on weight loss is limited in the literature.

Objectives:

The aim of this study was to compare weight loss after laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass for 5 years follow up.

Methods:

A training bariatric surgical unit went through phased introduction of procedures. This commenced with 20 laparoscopic gastric bands, followed by 70 LSG and thereafter 70 LGB. As the procedures were selected by hospital protocol rather than patient characteristics, the outcomes are not subject to selection bias. All consecutive patients were selected from the prospectively maintained database. Patients who had gastric bands and revisional procedures were excluded. Percentage Excess Weight Loss (EWL) was compared at 12, 24 and 60 months. Statistical analysis was carried out using SPSS.

Results:

119 patients were included in the study. Their median age was 47.2 years (range 21.3 to 65.4). Median BMI was 51.6 (range 35.7 to 72).

Of the 119 patients, 58 underwent LSG and 61 LGB. Both groups lost a significant amount of weight at 5 years with the sleeve group reducing their BMI from 51.8 to 38.8, p<0.0001. The bypass group reduced their BMI from 52.1 to 37.5, p<0.0001 (Figure 1). A comparison of variables between LSG and LGB is shown in Table 1.

Table 1: Sleeve versus Gastric Bypass

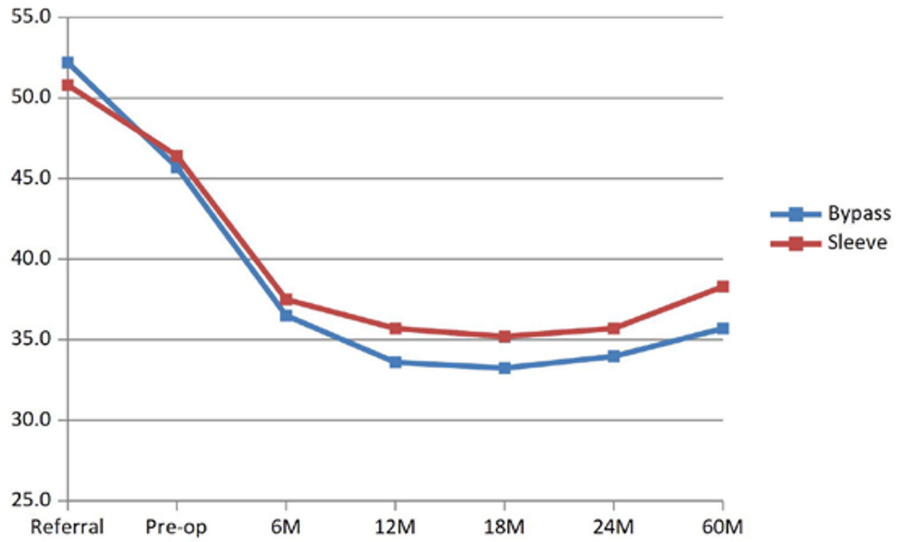
	Sleeve	Bypass	P-value
Age (baseline)	48.9	45.8	*0.070*
Gender (% female)	77.6%	68.9%	*0.283*
BMI (baseline)	50.8	52.2	*0.800*
EWL 12 months	59.3%	69.6%	*0.024*
EWL 24 months	58.8%	64.9%	*0.028*
EWL 60 months	51.7%	58.6%	*0.099*

At 1-year median EWL was significantly better in the gastric bypass group compared to the sleeve group (Bypass 69.6% vs Sleeve 59.3%, p=0.024). This superiority continued to be significant at 2 years. However, at 5 years although the EWL was higher in the bypass group (55.62% vs 50.4%, p=0.099), it was not statistically significant (Figure 2).

Conclusion:

Both LSG and LGB result in significant weight loss from baseline at 5 year follow up. LGB results in significantly more weight loss than LSG at 1 year and 2 years post-surgery, however, this loses statistical significance at 5 years post-surgery.

Figure 1: Median BMI



O-438

WEIGHT LOSS AND PREVALENCE OF REFLUX AND BARRETT'S ESOPHAGUS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY VS ROUX-EN-Y GASTRIC BYPASS AT 10 YEARS IN PATIENTS WITH MORBID OBESITY - THE SLEEVEPASS RANDOMIZED CLINICAL TRIAL

Long term results (> 10 years)

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Background:

Laparoscopic sleeve gastrectomy (LSG) has gained enormous popularity in the treatment of morbid obesity despite the lack of long-term results compared to laparoscopic Roux-Y-gastric bypass (LRYGB). Increased prevalence of gastroesophageal reflux (GERD) and Barrett's esophagus (BE) have been reported after LSG.

Objectives:

To compare the 10-year outcomes of LSG with LRYGB.

Methods:

The SLEEVEPASS multicenter, randomized clinical equivalence trial was conducted from April 2008 until June 2010 in Finland enrolling 240 morbidly obese patients (18 to 60 years), who were randomly assigned to LSG or LRYGB. The primary endpoint was weight loss (percent excess weight loss, %EWL) at 5 years. This study focused on 10-year outcomes of weight loss, remission of obesity-related comorbidities and prevalence of GERD and BE.

Results:

At 10 years among 240 randomized patients (119 LRYGB, 121 LSG) there were 10 deaths unrelated to intervention, 84.6% (193/228) completed follow-up on weight-loss and remission of comorbidities and 77.2% (176/228) underwent gastroscopy. At baseline, median age was 49 years and BMI 44.6 kg/m2, 70% were women, 42% had type 2 diabetes (T2DM), 35% dyslipidemia, and 71% hypertension. At 10 years, %EWL was 43.5% (range 2.1% to 109.2%) after LSG and 50.7% (range 1.7% to 111.7%) after LRYGB. Mean estimate %EWL was not equivalent between the procedures; %EWL was 8.4 (95%CI:3.1 to 13.6) higher in LRYGB. Complete or partial remission of T2DM was seen in 22% after LSG and in 33% after LRYGB (p=0.372). Dyslipidemia remission (no medication and normal lipid values) was seen in 19% and 35% (p=0.230), and hypertension remission (no medication) was 8% and 24% after LSG and LRYGB (p=0.043), respectively. Esophagitis was more prevalent after LSG compared with LRYGB (30.4% vs 7.1%, p<0.001) with no difference in BE (5.4% vs 3.5%, p=0.722, respectively). Reoperation rate for complications was 15.7% (19/121) after LSG and 18.5% (22/119) after LRYGB (p=0.567).

Conclusion:

Although LRYGB compared with LSG was associated with greater %EWL at 10 years, the difference was not statistically significant due to pre-specified equivalence margins (-9 to 9%). There was no difference is remission of T2DM or dyslipidemia, but hypertension remission was superior after LRYGB. Esophagitis was significantly more prevalent after LSG, but the prevalence of BE was markedly lower than in previous trials and similar after both procedures.

O-439

WEIGHT LOSS COMPARISON BETWEEN ROUX-EN-Y GASTRIC BYPASS AND LAPAROSCOPIC MINI-GASTRIC BYPASS AT THE CENTER FOR OBESITY AND METABOLIC DISEASES MALVINAS ARGENTINAS

Gastric bypass procedures including Roux-en-Y gastric bypass (RYGB) and One Anastomosis gastric bypass (OAGB)/ MGB

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Introduction:

Obesity is a chronic disease that is associated with multiple comorbilidades, being the second leading cause of death worldwide. Declared a pandemic by the World Health Organization. Your treatment should be done in a multidisciplinary manner so as to ensure solve the biological, social, cultural, economic, family and nutritional factors of this disease.

The fourth national health survey indicates that for Argentina the percentage of the population having some overweight is 67%. The high prevalence and incidence worldwide, requires therapeutic interventions are effective and safe. Bariatric and Metabolic Surgery guarantees these characteristics and therefore has become valid and effective therapeutic option for patients who do not respond to conventional treatments.

Objective:

Determine behavioral outcomes of weight loss obtained in patients undergoing surgery with OAGB compared to patients treated with RYGB at the Center for Obesity and Metabolic Diseases Malvinas Argentinas, in the period 2018.

Methods:

Observational, cross-sectional type retrospective in which patients were included operated bariatric surgery during 2018 at the Center for Obesity and Metabolic Diseases Malvinas Argentinas.

Results:

Patients undergoing Gastric Bypass for 2018 were in total 256, of which 54.68% (140) underwent a OAGB and 45.31% (116) RYGB. In comparing the two interventions a slightly greater reduction in the mean BMI at 12 months follow-up on the OAGB, 29.8 kg / m2 was found regarding the RYGB 31.8 kg / m2; Significant differences (p = 0.003) for the index showed initial and final body weight between groups. Finally, it was determined that the OAGB presented an "optimal" result (percentage loss of excess weight lost ≥ 50%) because on average, after 12 months of monitoring the percentage of overweight lost average was 66.6% compared to 55,

Conclusions:

This paper may show that patients undergoing OAGB have greater loss of the percentage of overweight at 12 months, however the development of higher education and larger populations is needed to clarifying the differences between these two procedures and thus actually determine the type of surgery with better results for cases with obesity and associated diseases.

O-440

WEIGHT LOSS FOLLOWING REVISIONAL ROUX-EN-Y GASTRIC BYPASS FOR REFLUX AFTER SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Background:

Revisional laparoscopic Roux-en-Y gastric bypass (rLRYGB) is a recognised management option for refractory gastroesophageal reflux disease (GERD) after laparoscopic sleeve gastrectomy (LSG). However whether rLRYGB in this scenario can lead to further weight loss remains unclear. Evidence of such a benefit would provide further support for patients who require rLRYGB.

Objective:

To investigate whether rLRYGB for GERD is associated with further weight loss.

Methods:

Retrospective analysis of all rLRYGB carried out for GERD in our tertiary centre between 2011 – 2019. Total weight loss (TWL), %TWL and %BMI change was compared between the LSG and rLRYGB and separately after rLRYGB. Student Paired T-Test was used to test for significance in TWL.

Results:

During this period 32 rLRYGB were carried out for reflux (29 female, mean starting BMI 50.2 kg/m2, mean weight 135.7kg). The median duration between LSG and rLRYGB was 31 months (IQR 25 – 53.3), at which point the average BMI had dropped to 37.6 kg/m2 and weight to 102.0kg, representing an mean absolute weight reduction of 33.5kg (range -64.3 to + 15.5kg, $p < 0.001$), %TWL of 24.5% (range -41.8% to +18.8%), and mean % BMI change of -24.7% (range -43.9% to +15.0%).

The median follow-up following rLRYGB was 13months (IQR 3.6 – 23.7), with an average weight of 95.5kg and BMI 34.8kg/m2 at this stage. This represented a further average absolute weight reduction of 7.7kg (range -36.0 to +24.3), %TWL of 7.3% (range -35.6% to +33.0%), and %BMI change of -6.7% (-34.0% to + 40.9%).

Post-hoc analysis suggests patients with follow up of at least 12 months (n = 17) demonstrated significantly higher absolute weight reduction (mean 8.8kg vs 6.6kg p=0.03) and %TWL (8.1% vs 6.5%).

Conclusion:

In this study with a median follow up of a year, there was further reduction in weight after rLYRGB which may not be considered clinically relevant. However, patients who had longer follow up demonstrated increasing weight loss. Our study suggests clinically significant weight loss may be achievable after rLRYGB, but studies with longer follow up are required.

O-441

WEIGHT LOSS SURGERY DURING COVID-19 PANDEMIA: THE EFFECTS OF A NATIONAL LOCKDOWN ON OPERATED PATIENTS

Behavioral health and bariatric surgery - Pre and post-op challenges

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Background:

COVID-19 pandemic forced a national lockdown in Italy. Pandemic situation and social isolation had a strong impact on general population. Obese patients are usually considered particularly vulnerable, especially in critical situations.

Objectives:

The aims of this study was to evaluate the effects of a national lockdown on a cohort of patients with obesity who underwent bariatric surgery immediately before the first outbreak, comparing outcomes with two other cohorts of patients operated 1 and 2 years before.

Methods:

This is a retrospective study on prospectively collected data. We selected 3 different cohorts of patients who had bariatric surgery from December through February 2017-2018, 2018-2019 and 2019-2020 and compared them with a control group without nutrition-related concerns. After pre-operative multidisciplinary counseling, patients were asked to fill on-line questionnaires to evaluate their quality of life during the lockdown. Information were collected regarding socio demographic conditions, diet, physical activity both before and during the lockdown. A psychological evaluation through different standardized tests (BDI-II; STAI-Y1; GHQ-12; PSS) was also carried out. Information about variations of daily frequency and composition of meals and physical workouts were obtained. Chi-square and ANOVA tests were used for statistics.

Results:

Among those operated, 81 patients expressed their consent, while the control group consisted of 63 people. Most of surgical procedures were LSG (76 out of 81), LRYGB and one OAGB. Sixty-three percent of patients were female and most were aged 40-60y. Median BMI was 42 kg/m2, 65% had at least one comorbidity. Control group control had a median BMI of 23 kg/m2, negligible comorbidities, most of them were female.

Obese patients had a lower level of education compared with control group. Before lockdown, 70.37% used to actively practice physical activities, dropping to 39.5% during the lockdown. The same was not evident for control group. Lockdown had also an impact in terms of reduction of fruits and vegetables intake and increased hunger. Psychological well-being assessment reported higher rates of depression, anxiety, sleep disturbances. All these issues did not contributed to increase BMI during the lockdown even among those operated right before.

Conclusions:

Bariatric patients adequately “prepped” were able to stand COVID-19 challenge, even if operated right before the outbreak.

O-442

WEIGHT LOSS SURGERY- ESTABLISHING A SUPPORT GROUP IN INDIAN POST BARIATRIC PATIENT FOR A SUSTAINED AND BETTER OUTCOME REGARDING WEIGHT LOSS AND QOL.

Nutrition, eating behaviors before and after bariatric surgery

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Introduction:

Bariatric surgery is mainstay in curbing obesity and associated co-morbidities. Support group meeting can help attain a higher sustained % EWL and may improve QOL. This study becomes so important as it is not covered under Insurance in our country. A good support may help them to achieve there target with a better understanding.

Objective:

To evaluate efficacy of support group meeting (SGM) in improving % EWL and QOL

Method:

A longitudinal prospective study conducted from 2016-2019. The ethics committee approval was taken and then the patients were recruited into the study by taking written informed consent. All patients fitting IFSO-APC inclusion criteria who underwent bariatric surgery were enrolled. Patients were subjected to support group meetings; % Excess weight loss and BAROS scale for the assessment of Quality of life (QOL) was used. p value less than 0.05 was considered as statistically significant.

Result:

A total of 332 patients were enrolled, 63.4% (n=227) RYGB, 5.12% (n=17) MGB and 26.5% (88) sleeve gastrectomy surgery. Patients with >50% SGM attendance (Group A) were 105(31.6%) and in Group B patients attendance <50% SGM was 227(68.4%). Group A was having better % EWL i.e. 98.89±6.37 and in group B it was 87.26±19.55, and statistically significant (p value<0.01). Group A also had significant better BAROS-QOL i.e. 6.05±1.26 as compared to group B, i.e. 5.55±1.19, p value<0.01specially in self-esteem and social criteria in the QOL scale.

Conclusion:

Higher SGM attendance post bariatric surgery leads to sustained % EWL and to improved quality of life.

KEYWORDS: Bariatric surgery, %EWL, QOL, Support group meeting

O-443

WEIGHT MANAGEMENT AMONG PATIENTS UNDERGOING BARIATRIC SURGERY: PRELIMINARY ANALYSES OF FOCUS GROUPS DISCUSSING POSSIBLE ADJUNCT BEHAVIORAL INTERVENTIONS TO ENHANCE OUTCOMES

Adjunctive interventions to enhance weight loss and prevent weight regain

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Background:

A failure to engage patients in long-lasting behavior change may promote weight regain after bariatric surgery (BS). Adjunct behavioral weight management (BWM) interventions to BS are key to enhancing behavior change. There is a paucity of data on the critical treatment components for optimising behavior change in patients undergoing BS. To develop effective interventions, it is critical to understand the needs and perspectives of multiple stakeholders.

Objectives:

The objectives of this study were to understand: 1) What constitutes successful weight management after BS and the factors that drive this; and 2) What BWM components are needed to enhance the outcomes of BS.

Methods:

This qualitative focus group study recruited participants from the largest bariatric care centre in Canada, located in Montreal. The four key groups of stakeholders included: patients waiting for BS (n= 5); patients who underwent BS (n=14); healthcare professionals (HCPs: 1 surgeon, 3 nurses, and 1 dietician); and health administrators (n=2). Separate focus groups and thematic analyses were conducted for each group.

Results:

Preliminary results from the HCPs group identify the need to have more and varied HCPs involved to support patients undergoing BS (specifically, psychological and a social worker support). HCPs also noted the need to generate more motivation and engagement in patients and stressed the importance of non-weight-related outcomes. Preliminary results from the patients' groups identify two key themes: the need for more practical interventions on how to implement changes within patients' daily lives; and that the post-surgical period was a more feasible and appropriate time for BC interventions, as patients are adjusting to their "new reality".

Conclusion:

A focus on the post-surgical period, development of practical skills among patients, and interventions focused on psychosocial aspects of the BS process seem to be key areas that need to be addressed. Results from this project will contribute to a larger integrated knowledge translation research program aimed at developing efficacious, implementable adjunct behavioural interventions for patients undergoing BS.

O-444

WHAT CONDITIONS CONTRIBUTE TO OPIOID USE IN PATIENTS UNDER AN ENHANCED RECOVERY AFTER SURGERY (ERAS)/MULTIMODAL ANALGESIA (MMA) PROTOCOL?

Enhanced recovery in bariatric surgery

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Background/Introduction:

Opioids, although effective for pain management, increase the risk for addiction and adverse side-effects including nausea/vomiting and respiratory depression. An ERAS protocol with MMA reduces postoperative pain and opioid needs for the majority, but not all, bariatric patients.

Objective:

In this study, we attempt to identify contributors to the need for opioids postoperatively in patients under an ERAS/MMA protocol.

Methods:

The study population included 145 bariatric metabolic surgery patients, all of whom were under a similar ERAS/MMA protocol. Factors examined as potential contributors to opioid use postoperatively included: surgery type (gastric bypass, sleeve gastrectomy), incidence/number of obesity-associated health issues, ASA scores, operative time, perioperative complications, length of hospital stay (LOS), age, gender, and BMI. Data was statistically analyzed using linear and multiple regression analyses and student t-test ($p \leq 0.05$).

Results:

Postoperatively, 49% of patients (n=71) required opioids for pain management, whereas 51% (n=74) did not. Among the opioid users, morphine equivalents averaged 12.2, with 25% of patients requiring >20 equivalents. No significant differences ($p>0.05$) were found between the opioid-requiring and non-requiring patient groups for BMI, weight, ASA scores, number of obesity-associated medical problems, or gender distribution. Perioperative complication rates also did not significantly ($p>0.05$) differ between those who used or did not use opioids nor did operative times (107 vs. 102 minutes) or LOS (1.32 vs. 1.25 days). Opioid users, however, did tend ($p=0.055$) to be younger in age than their non-user counterparts (42 vs. 46 years, respectively), and, among these patients, age was significantly ($p=0.03$) and inversely correlated to opioid requirement (morphine equivalents). Furthermore, according to multiple regression analyses, age was found to be the only independent predictor ($p=0.04$) of opioid use after surgery.

Conclusion:

Among our patients under ERAS/MMA, only younger age predicted the need for opioids in postoperative pain management. Further investigation is underway to identify contributing factors to postoperative opioid needs of younger patients, including pain perception, preoperative alcohol or drug use, and psychosocial status.

O-445

WHAT IS THE IMPACT OF INTRAGASTRIC BALLOON FOR HIGH SURGICAL RISK PATIENTS IN THE PREPARATION FOR BARIATRIC SURGERY? EXPERIENCE WITH 408 CONSECUTIVE PATIENTS

Endoscopic and percutaneous interventional procedures

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Introduction:

Patients with BMI > 50kg/m² usually has a higher surgical risk, complications and risk of mortality. In addition, they frequently present difficulty managing associated diseases. The use of the intragastric balloon (IGB) is well established in the literature as an alternative for acute weight loss of patients with clinically severe obesity associated with control of decompensated comorbidities.

Objectives:

To analyze the use of IGB as a preoperative procedure aiming an initial weight loss and reduction of surgical risk.

Methods:

From November 2000 to December 2020, 408 patients with super obesity (mean BMI=52) were treated with IGB for at least four months before surgical treatment. Associated severe grade diseases were arterial hypertension (55%), diabetes (25%), sleep apnea (65%) and osteoarthrosis (45%).

Results:

The mean excess weight loss was 25,2%, mean weight loss was 16.5kg and mean BMI reduction was 7,1 kg/m2. IGB group had only minor complication (nauseas, vomits, gastroesophageal reflux) and three cases of early balloon withdrawal (within 2 months) due to patient intolerance. 85% of patients showed satisfactory results with improvement in hypertension, diabetes, sleep apnea and with surgical risk reduction from ASA III/IV to ASA II. All these patients were submitted to bariatric surgery (RYGB 81%, LAGB 2%, SG 12% or BPD 5%) without major complications. There was no mortality. Only 15% of patients needed a two-stage surgery.

Conclusion:

IGB is an effective non-surgical technique to prepare BMI > 50 patients, reducing the severity of major complications and changing surgical risk.

O-446

WHAT REALLY MATTERS WHEN WE PERFORM A ROUX-EN-Y GASTRIC BYPASS ?

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Lack of standardization in the Roux-en-Y Gastric Bypass (RYGBP) is quite well established. We all learned the basics technique but a lot of differences do exist in performing each step of the procedure.

Objectives:

Based on scientific evidence, coming from an extensive and meticulous review of the literature of the last twenty years, we thus review the different technical steps and their importance to try and propose a standardization of RYGBP.

Methods:

Ante-colic of retro-colic, gastric pouch size, stoma size, banded / gastric remnant resection, limbs size, A limb length / B limb length, handsewn or stapled linear / circular anastomosis, type of Stiches, mesenterical / Petersen defect closure, leak tests: M-Blue / Air / ICG, ports closure are the points focused on.

Results and Conclusions:

A lot of possibilities exist at each and every step of a RYGBP. They influence the post-operative complications, the end weight loss (EWL), the weight regain, the resolution of obesity bounded co-morbidities.
Furthermore, lack of standardization leads to problems regarding the interpretation and comparison of scientific data in the related literature.

O-447

WHEN DO LEAKS OCCUR? AN ANALYSIS OF THE METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM

Post-operative complications

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Introduction:

Leaks from the staple line or anastomosis are one of the most feared complications in bariatric surgery. Time to presentation is important in the management of these leaks. We used the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) to evaluate the rate and timing of leaks in bariatric surgery.

Methods:

The MBSAQIP Participant Use Files (PUF) for the years 2015-2020 were evaluated. The outcomes of interest were “organ space infection” and “leak.” The variable “leak” was only available for the 2020 PUF. We also evaluated the time to organ space infection or leak. Patient characteristics were evaluated as well as operative time, length of stay and death.

Results:

There were 270,796 Roux-en-Y gastric bypasses (RYGB) and 730,097 sleeve gastrectomies (SG). There were 1,844 (0.25%) SG leaks with an average time to presentation of 11 days (6-15 IQR). For RYGB, there were 1,564 leaks (0.58%) with an average time to presentation of 6 days (2-12 IQR). There was a lag of 2 days longer until reoperation for both SG and RYGB. Patients with a leak were more likely to die than those without (2.31% vs 0.09%, $p<0.001$).

Conclusions:

SG leaks presented almost two times later than RYGB leaks. Surgeons should continue to be vigilant for leaks for at least 2 weeks. Leaks are a significant risk factor for death.

O-448

WHEN THE GOING GETS TOUGH FOR A BARIATRICIAN: CRITICAL REVIEW OF FIVE CHALLENGING CASES BY A NUTRITIONIST

A critical review of the need, or lack thereof, of preoperative weight loss

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Introduction:

Even though preoperative preparation and weight loss prior to Bariatric Surgery (BS) is standardized, bariatricians come across different challenging cases. This presentation aims at demonstrating different challenges, indications and approach to prepare the patients for BS. Preoperative weight loss in such cases may have different indications and is a challenge for Bariatric Nutritionist.

Objective:

Review of Challenges in preoperative preparation of different case scenarios

Methods:

5 most challenging cases selected from a high-volume bariatric centre from 2015 till 2022. Age, sex, weight, BMI, comorbidities and unique challenges and indications for BS were recorded preoperatively. Different protocol of preparation for each indication with results is being presented. The unique challenges were 1) BMI of 133kg/m2, with weight of 300kg ,2) Anasarca with renal failure,3) giant ventral hernia with almost entire viscera outside the abdominal cavity, 4) morbid Obesity with diabetes and debilitating neuropathy & 5) grade IV NASH with nodular liver.

Results:

All patients were prepared and optimized with different diet protocols, pharmacotherapy, physiotherapy and psychological intervention and underwent Bariatric surgery successfully. Outcomes at 6 months showed resolution of the challenges faced.
Discussion: BMI more than 100 kg/m2, renal failure, diabetes, anasarca pose a challenge in designing preoperative diet. The presentation aims at discussing how the diets can be designed and optimized for above comorbidities.

Conclusion:

Low calorie diet for preparation of patients for BS has been the standard of care. The composition of diet and the plan for preparation may vary and needs an expert multidisciplinary approach especially in cases like BMI more than 100 kg/m2, renal failure, anasarca, diabetes, impending cirrhosis and many more. More data and literature on standardizing diet in such cases is necessary.

O-449

WHY BARIATRIC SURGERY PATIENTS DO NOT FOLLOW MEDICAL RECOMMENDATIONS? MEASURING KNOWLEDGE, ATTITUDES, AND BARRIERS TO MEDICATION ADHERENCE IN INDIVIDUALS BEING CONSIDERED FOR SURGERY

Integrated health

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Background:

Bariatric surgery is an effective treatment for the obesity epidemic, but the poor attendance and adherence rates of post-surgery recommendations threaten treatment effectiveness and health outcomes. Preoperatively, we investigated the unique contributions of clinical (e.g., medical and psychiatric comorbidities), socio-demographic (e.g., sex, age, and educational level) and psychopathological variables (e.g., binge eating severity, the general level of psychopathological distress, alexithymia traits) on differing dimensions of adherence in a group of patients seeking bariatric surgery.

Methods:

The final sample consisted of 501 patients (346 women). All participants underwent a full psychiatric interview. Self-report questionnaires were used to assess psychopathology, binge eating severity, alexithymia and three aspects of adherence: knowledge, attitude, and barriers to medical recommendations.

Results:

Attitude to adherence was associated with alexithymia (β= -2.228; p< 0.001) and binge eating disorder (β= 0.103; p= 0.047). The knowledge subscale was related to medical comorbidity (β= 0.113; p= 0.012) and alexithymia (β= -2.256; p< 0.001); with age (β= 0.161; p= 0.002) and psychiatric comorbidity (β=0.107; p= 0.021) manifesting in the barrier subscale.

Conclusion:

We demonstrated that alexithymia, psychiatric and eating disorders impaired adherence reducing attitude and knowledge of treatment and increasing the barriers. Both patient and doctor can benefit from measuring adherence prior to surgery, with a qualitative approach shedding light on the status of adherence prior to the post-surgical phase when the damage regarding adherence is, already, done.

O-450

WHY THE GLUCOSE-TRIGLYCERIDE (TYG) INDEX SHOULD BE EVALUATED IN MORBIDLY OBESE PATIENTS

NASH and bariatric surgery

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Background:

The Glucose-Triglyceride (TyG) index is a tool to identify patients with insulin resistance, which is a trigger to nonalcoholic fatty liver disease, especially in patients with obesity.

Objective:

This study aims to verify if there is association between TyG and NAFLD in its different levels among individuals with morbid obesity.

Methods:

A transversal study of obese patients submitted to bariatric surgery (Y-en-Roux bypass) in the last two years at our institution was conducted. All individuals had blood sample collected before procedure and a transoperative liver biopsy. TyG was calculated by the formula: ln[fasting triglycerides (mg/dL) × fasting glucose (mg/dL)]/2.

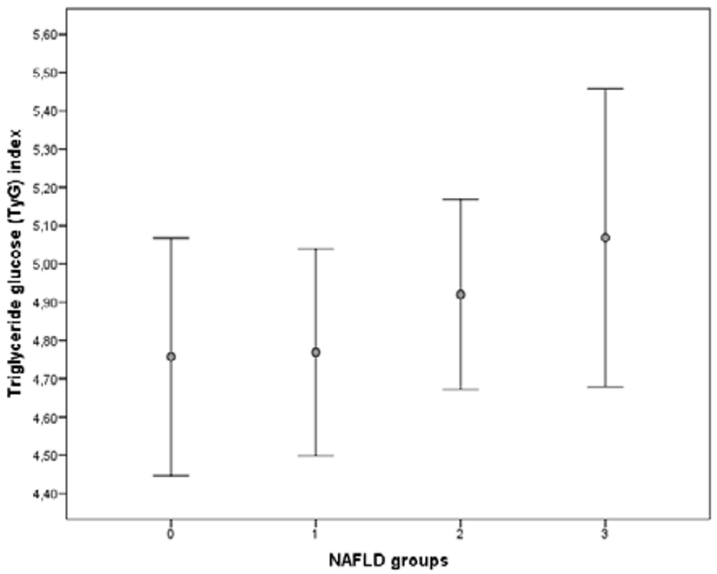
Results:

A total of 77 patients, mean age 41.4 years-old (SD11.2) and BMI 50.1 kg/m²(SD 8.2) was included. Most presented NAFLD (71 individuals), 44.1% had steatosis, 22% steatohepatitis and 26% steatohepatitis with liver fibrosis. The mean TyG for these groups was: 4.75, 4.77, 4.9 and 5, respectively. The index was associated with NAFLD in its different stages (ANOVA, p=0.006), higher in patients with inflammation and fibrosis. The best cutoff to predict NAFLD with fibrosis was 4.93 (AUC 0.7, p=0.009). Alanine aminotransferase and waist-to-hip ratio did not show association with NAFLD (p=0.2 and p=0.3).

Conclusion:

TyG is a useful test to identify NAFLD and its stages among patients with morbid obesity.

Fig 1. Higher TyG index was associated to NAFLD in its different stages (ANOVA, p=0.006).



O-451

WITH A LITTLE HELP FROM MY FRIENDS? ASSOCIATIONS OF BARIATRIC SURGERY PATIENTS' DAILY PERCEPTIONS OF WEIGHT-FOCUSED SOCIAL SUPPORT WITH WEIGHT LOSS, ACTIVITY BEHAVIORS, AND EATING REGULATION

Behavioral, psycho-social, and environmental predictors of bariatric surgery outcomes

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Introduction:

Greater perceived social support (PSS) relates to better weight and activity/eating outcomes after bariatric surgery. Yet, little is known about the importance of weight-focused PSS, variability in PSS levels, and associations of PSS with weight and eating/activity outcomes over time.

Objectives:

This study evaluated changes in daily perceptions of weight-focused PSS and associations with weight loss and activity/eating outcomes before and during the initial year after bariatric surgery.

Methods:

Adult bariatric patients (N=71) completed assessments over 10 days at pre- and 3-, 6-, and 12-months post-surgery. At each assessment, participants were given: (1) an accelerometer to objectively measure moderate-to-vigorous intensity physical activity (MVPA)/sedentary time (ST) and; (2) a smartphone to complete ratings of both weight-focused PSS (e.g., "I can talk with my family and friends about managing my weight") at the beginning of each day and eating regulation (i.e., dietary restraint: cognitive effort to restrict food intake and disinhibition: tendency to overeat in response to stimuli like presence of palatable foods) at four semi-random times daily. Generalized linear mixed models analyzed associations of PSS with weight loss (%WL) and eating/activity outcomes.

Results:

Participants on average reported relatively stable moderate-to-high PSS (3.98 on 1-5 scale) levels across assessments. PSS did not associate with %WL or MVPA/ST. Participants with higher weight-focused PSS reported lower disinhibition compared to those with lower PSS (ps<.05). Additionally, participants reported higher restraint on days they reported lower weight-focused PSS than their usual level (p=.009).

Conclusion:

Participants on average had stable weight-focused PSS levels across time. Higher PSS levels associated with greater resistance to overeating cues whereas participants reported greater cognitive effort to restrict food intake when PSS levels were lower than usual. Overall, weight-focused PSS may hold greater importance in relation to eating regulation than activity behaviors or weight loss from pre- to 1-year post-surgery.

O-452

PREVALENCE AND IMPLICATIONS OF HELICOBACTER PYLORI INFECTION AND CHRONIC GASTRITIS IN BARIATRIC AND METABOLIC SURGERY

Basic science and research in bariatric surgery

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Introduction:

Worldwide the Helicobacter Pylori (HP) is present in about 50% of the general population however, its prevalence varies in different countries and populations but it implication in patients with obesity is still controversial.

There are several studies showing that a lower prevalence of HP in obese patients suggest that its presence could act as a protective factor against obesity. However, its detection and eradication are considered important in bariatric surgery due to multiple physiological and homeostatic gastrointestinal disturbances emerging after a bariatric procedure such as Gastroesophageal Reflux Disease (GERD) and therefore increasing the use of proton pump inhibitors, alterations that predispose an unexpected behavior of HP, which is known in itself; an independent predictor for marginal ulceration in patients undergoing gastric by-pass, as well as a gastric carcinogen.

Regarding Chronic Gastritis (CG), preoperative endoscopy in patients before bariatric surgery has shown a higher prevalence of CG (23.7%) compared with a control group (11.8%) with normal BMI, same age, and gender without showing a correlation with the presence of HP.

General objective:

To identify the prevalence of HP and CG in patients undergoing bariatric and metabolic surgery within our patient population.

Specific objectives.

1. Determine the incidence of HP
2. Determine the incidence of CG

Method:

Preoperative endoscopy was performed two weeks prior to the surgical intervention /or in the immediate preoperative period to all patients undergoing bariatric and metabolic surgery during the months of February, March, and April 2022. Histological samples of stomach body and antrum were taken for pathological analysis and identification of HP and GC, evaluating its evolution during the first 4 days after surgery.

Results:

A total of 350 samples were recollected, on those, 20 samples were rejected due to poorly taken samples and/or inconclusive results, 69 patients (21%) showed HP and 155 patients (47%) showed CG without the presence of HP.

In this study just one patient showed postoperative bleeding after 2 days of the surgery and another one required conversion from sleeve to gastric by-pass due to sleeve stricture after 3 days of the surgery.

Conclusion: Our study supports the low prevalence of HP infection in obese patients while showing a high prevalence of CG with/without the presence of HP. Both HP and CG conditions were not associated with immediate post operatory surgical complications.

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O-453

USE OF COMBINED APC AND ENDOSUTURE FOLLOWED BY BOWEL DISTALIZATION AS TREATMENT FOR WEIGHT REGAIN AFTER LRYGB

Basic science and research in bariatric surgery

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Introduction:

Gastric bypass has been the gold standard in bariatric and metabolic surgery for more than 3 decades and despite its high efficiency some patients regain weight, being one of the most frequent revisional surgeries globally.

Some of the most controversial aspects in the management of this type of weight regain after LRYGB include the diameter of the anastomosis, the enlargement of the stomach pouch and the length of the bypassed intestinal loop, as Implicit factors.

As a fist step an endoscopically, argon plasma coagulation (APC) is used, which is applied around the anastomosis in order to increase its fibrosis (1.5-2 l 50-60 w), followed by endosuture with the Apollo OverStich® system, usually 2 –3 interrupted stitches with non-absorbable suture to reduce its caliber to less than 12 mm. And at a later stage, laparoscopic distalization of the loop at about approximately 120 cm is performed.

Objective:

Achieve regained weight loss after gastric bypass with endoscopic and minimally invasive procedures.

Specific objectives

1. Remission of comorbidities
2. Patient satisfaction

Method:

The results of combined and staged treatment for weight regain after gastric bypass Roux-n-Y, with dilated anastomosis, were prospectively reviewed.

The APC and reduction in size of the anastomotis/enlarged pouch was performed using an endoscopic transmural suture device (OverStich-Apollo)® seeking to reduce the diameter of the GY anastomosis and the gastric reservoir. 3 weeks later a Laparoscopic loop distalization was increased approximately 120 cm. Safety aspects, feasibility of the techniques, and the efficacy of this type of technique are described.

Results:

Two 48 year old female patients were included. The first patient, went to initial weight before her gastric bypass procedure was 180 kg (68 BMI), after LRYGB the weight loss 105 kg (40 BMI), current weight 135 kg (50.3 BMI) with 30 kg regain, so far after the combined management with a weight loss of 15 kg (45.7 BMI) one month followed. The second patient, initial weight before gastric bypass 110 kg (BMI 42.96), dropped to 75 kg (29 BMI), later with a 25.7 kg gained to a weight of 100.7 kg (BMI 39.3), one month after the combined rescue therapy, went to 90.7 kg (BMI 35.4).

There were no complications, during or after the procedures.

The first patient has lost 15 kg so far. The second patient has lost 10 kg, representing approximately 50% of her regained weight, furthermore, her diabetes and hypertension control have been improving.

When evaluating the patients, they showed a high rate of satisfaction in their weight regain.

Conclusion:

Currently, is not very clear in the scientific literature what are the results of combined endoscopic and laparoscopic management for weight regain, nor is there a consensus on the ideal management for weight regain after RYGB.

In our short experience we were able to evaluate the safety, viability and short-term effectiveness of this combined treatment, being the beginning of a project to include new cases with regular updates and follow-up in the medium and long term.

ORAL ABSTRACTS

Poster Abstracts

P-001

360° GASTROPLICATION WITH THE REMNANT STOMACH - AN OPTION FOR LATE DUMPING AFTER RNY GASTRIC BYPASS? A SMALL CASE SERIES

Revisional surgery

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Introduction:

Dumping after RNY bypass is common and most of the times can be treated with diatery interventions and pharmacological therapy. Though rare, some patients suffer from uncontrolled hypoglycemia with neuroglycopenic symptoms resistant to therapy. Procedures which delay the passage of the food or even pancreatectomies have been considered. We present a small case series of five patients who underwent a 360° gastroplication with the remnant stomach in order to treat late dumping after RNY gastric bypass.

Methods:

All patients were female. Three patients underwent a primary RNY bypass operation. Two were treated initially with a sleeve gastrectomy followed by a RNY bypass as revisional procedure for weight regain. Mean BMI prior to bariatric surgery was 44,9 kg/m2 and at the time of the revisional operation 27,8 kg/m2. In all patients a 360° gastroplication with the remnant stomach was performed in the site of the anastomosis. One patient with a preexisting penetrating minimizer ring underwent additionally a revision of the anastomosis.

Results:

All patients showed resolutions of the symptoms after surgery. Even after 12 months, no neuroglycopenic symptoms were described.

Conclusions:

Modified gastroplication after RNY bypass seems to delay the passage of the food through the pouch, thus resulting in a better glycemic control. Considering revisional procedures for dumping, it can be a viable option.

P-002

500 CONSECUTIVE OAGB AS A PRIMARY OR REVISIONAL PROCEDURE BY A GENERAL SURGEON

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

From 2013 to 2019 500 consecutive OAGB (Rutledge's procedure) were offered and performed as a single procedure by a general surgeon for primary indication and revision (laparoscopic banding , sleeve, Mason Mc Lean). The purpose of this prospective study was to assess the feasibility of a single procedure. Bariatric surgery facing the worldwide obesity pandemic should become a safe effective and easy to perform tailored procedure efficient enough to be offered in most cases as commonly as cholecystectomy by all digestive surgeons.

P-003

A CASE OF DEVASCULARISED STOMACH POST SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS

SADIs

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Introduction:

Laparoscopic SADI has gained increasing popularity as a weight loss procedure with excellent short- and long-term outcomes. Various groups describe different techniques to performing the duodenal dissection, with some advocating for ligation of the right gastric artery, whilst others performing a minimal dissection retro duodenal tunnel.

Objectives:

We describe the anatomical considerations when performing SADI and the risks of revascularizing the stomach if the right gastric artery is ligated.

Methods:

A 47-year-old underwent a laparoscopic SADI 10 years post her laparoscopic sleeve gastrectomy. Her original BMI was 40 and she had a remarkable result post sleeve gastrectomy. Unfortunately following a MVA and a sustained period of immobility, she regained a considerable amount of weight and sought revision bariatric surgery.

Results:

A laparoscopic SADI was performed with no modification of the original sleeve gastrectomy. The right gastric artery was ligated with an energy device and a 2-layer hand sewn duodenal-ileal anastomosis performed with a 3-metre common channel. On day 3 post operatively, patient experienced abdominal pain with a peritonitic examination, however unremarkable abdominal CT. A relook laparoscopy revealed a revascularized stomach with an intact anastomosis. A subtotal gastrectomy with Roux-En-Y reconstruction was performed. Patient subsequently developed stenosis of the gastrojejunostomy which required serial dilatation.

Conclusion:

Although the stomach is well vascularised, preservation of the right gastric artery during SADI should be considered, especially in the context of aberrant anatomy. Whilst an extremely uncommon complication, early recognition of a usual clinical course resulted in a favorable clinical outcome.

P-004

A CASE OF POST-OPERATIVE HEMORRHAGING AFTER REVISIONAL SLEEVE GASTRECTOMY FOR GASTRIC PLICATION

Revisional surgery

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Background:

Few reports have described revisional sleeve gastrectomy for gastric plication, and none have mentioned its perioperative complications. We report a case of postoperative hemorrhaging after revisional sleeve gastrectomy.

Objectives:

We discuss the causes of postoperative bleeding following revisional sleeve gastrectomy.

Methods:

A 48-year-old woman underwent gastric plication at another institution 10 years ago. She was 158.2 cm tall, weighed 117.3 kg, had a body mass index of 47.9 kg/m2, and was being treated for type 2 diabetes mellitus. Upper gastrointestinal endoscopy showed gentle elevation of the greater curvature from the antrum to the fundus.

Results:

Laparoscopic revisional sleeve gastrectomy was performed using a 37.5-Fr bougie. Intraoperative findings showed little invagination of the gastric wall, so gastric transection was performed without reversing the plication. However, the gastric wall was hard, especially at the incisura angularis, and the staple line bled after transection, hampering hemostasis. On postoperative day (POD) 1, hemoglobin decreased by 3 g/dl, and computed tomography showed perisplenic hematoma. We transfused 4 units of packed red blood cells, but reoperation was unnecessary. Postoperative upper gastrointestinal series showed no stenosis or leak. The patient was discharged on POD 3 as the hemoglobin level did not decrease after blood transfusion. Three months postoperatively, weight loss was 25 kg without any complications.

Conclusion:

The distance from the bougie must be carefully secured when performing sleeve gastrectomy, especially at the incisura angularis. However, in this case, the plication was not reversed, and the stomach at the incisura angularis was transected in the thick part affected by the plication. This might have resulted in insufficient staple formation, leading to postoperative bleeding. When revisional sleeve gastrectomy is performed after plication, the plication must be reversed, especially at the incisura angularis.

P-005

A DOUBLE-BLIND RANDOMIZED CONTROLLED TRIAL COMPARING A SPECIALIZED MULTIVITAMIN SUPPLEMENTATION TO A STANDARD MULTIVITAMIN SUPPLEMENTATION AFTER ONE ANASTOMOSIS GASTRIC BYPASS

Pre and post nutritional deficiencies

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Introduction:

Bariatric-metabolic surgery is a well-established treatment modality leading to weight and comorbidity loss. Nevertheless, as several studies showed, in a significant number of patients the changes in the gastrointestinal tract result in relevant micronutrient deficiencies deeming multivitamin supplementation necessary. In order to address the different needs after various bariatric-metabolic methods, specialized multivitamin supplementations (MVSs) have been developed.

Objectives:

Evaluating whether a specialized MVS is superior to a standard MVS in patients after OAGB.

Methods:

Double-blind, randomized controlled; All patients scheduled for OAGB were prospectively asked for study participation at the outpatient clinic, follow up was carried out at 3, 6 and 12months postoperatively. Serum levels of parathyroid hormone (PTH), vitamins (A, D, E, B12), folic acid, iron and ferritin were retrieved at each visit. An intention-to-treat analysis was carried out for all parameters assessed.

Results:

A total number of 120 patients (female: 89) were included in the study (standard: 62; specialized: 58). After the first year, follow-up rate was 76.7%. In general, OAGB led to an average %Excess weight loss (%EWL) of 88.1% (+/-16.4%) and a mean body mass index (BMI) decrease from 44.0 (+/-4.9) to 27.7 (+/-3.4) kg/m2 without significant difference between the groups. Preoperative deficiencies were similar in both groups, only PTH elevation was significantly different ($p<0.01$) and more common in the standard group. A significant difference was observed for folic acid, vitamin B12 and vitamin D at each time point postoperatively with higher values in the specialized MVS group. Parameters of iron metabolism (ferritin, serum iron), represented as mean serum values after 12months, were similar for both groups, with a higher total percentage of ferritin deficiencies in the standard group (22.4% vs. 14.2%). De novo Vitamin A deficiencies occurred in both groups within the first year after surgery and were partially reversed by MVS at the 12months visits. No hypervitaminosis A or E was observed.

Conclusion:

Due to the reduced intake and absorption of essential micronutrients and vitamins, de novo deficiencies are common after OAGB, therefore postoperative multivitamin supplementation is mandatory. Specialized MVS is superior in preventing deficiencies compared to standard MVS. Further adaption of specialized MVS to the specific needs after OAGB is necessary.

P-006
A RANDOMIZED CONTROLLED TRIAL COMPARISON OF ENOXAPARIN 40 MG VS 60 MG DOSAGE FOR VENOUS THROMBOEMBOLISM PROPHYLAXIS IN BARIATRIC SURGERY

Perioperative management

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Background:

Venous thromboembolism (VTE) is a common postoperative complication that may lead to serious problems. Morbidly obese is an independent risk factor for VTE with an increased risk greater than normal population. Proper dosing regimen of enoxaparin for VTE prophylaxis in morbidly obese is not clearly defined in available guidelines.

Objectives:

To compare the achievement of anti-factor Xa target level after the administration of enoxaparin 40 mg or 60 mg for VTE prophylaxis in patients were planned for bariatric procedure in order to determine the best dose.

Methods:

A randomized controlled trial carried out on morbidly obese patients scheduled for bariatric procedure in King Chulalongkorn Memorial Hospital between April 2019 and March 2020. All recruited patients randomly received 40 mg or 60 mg of enoxaparin subcutaneously 12 hours before the scheduled operative time. Blood specimens for peak 4-hour anti-factor Xa level were collected at 4 hours after the administration of enoxaparin. The target range of anti-factor Xa level was defined between 0.2-0.5 IU/ml.

Results:

There were 56 patients that underwent bariatric procedure during our study period. 28 patients received 40 mg of enoxaparin while 28 patients received 60 mg randomly. The percentage of target level achievement in both groups were 53.57% and 78.57% respectively (p-value = 0.048). The mean anti-factor Xa levels were 0.19 IU/ml and 0.28 IU/ml respectively ($p < 0.001$). Subgroup analysis focused on the patients with BMI over 50 kg/m2 (n=16). There was no statistically significant achievement of target level in both groups 28.57% and 55.55% respectively (p-value = 0.28). There was no statistically significant estimated blood lost (EBL) in both groups, mean EBL were 28.03 ml in the 40-mg group versus 24.64 ml in the 60-mg group ($p = 0.46$). No patient obtained levels exceeding 0.5 IU/ml of anti-factor Xa and no occurrence of VTE in both groups.

Conclusion:

For VTE prophylaxis in bariatric surgery, enoxaparin dosage at 60 mg subcutaneously is more achieved than the desired target level of anti-factor Xa comparing to 40 mg without any unwanted complications in overall morbid obesity patients. The higher dose of enoxaparin was possibly considered in BMI over 50kg/m2 patients.

P-007
ABDOMINAL PERIAORTIC AND RENAL SINUS FAT ATTENUATION INDICES MEASURED ON COMPUTED TOMOGRAPHY ARE ASSOCIATED WITH METABOLIC SYNDROME

Basic science and research in bariatric surgery

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Objectives:

To investigate the association between abdominal periaortic (APA) and renal sinus (RS) fat attenuation index (FAI) measured on MDCT and metabolic syndrome in non-obese and obese individuals.

Methods:

Visceral, subcutaneous, RS, and APA adipose tissue were measured in preoperative abdominal CT scans of individuals who underwent donor nephrectomy (n = 84) or bariatric surgery (n = 155). FAI was defined as the mean attenuation of measured fat volume. Participants were categorized into four groups: non-obese without metabolic syndrome (n = 64), non-obese with metabolic syndrome (n = 25), obese without metabolic syndrome (n = 21), and obese with metabolic syndrome (n = 129). The volume and FAI of each fat segment were compared among the groups. Receiver operator characteristics curve analysis was used to assess the association between the FAIs and metabolic syndrome.

Results:

FAIs of all abdominal fat segments were significantly lower in the obese group than in the non-obese group ($p < 0.001$). RS, APA, and the visceral adipose tissue FAIs were significantly lower in participants with metabolic syndrome than in those without metabolic syndrome in the non-obese group ($p < 0.001$, $p = 0.006$, and $p < 0.001$, respectively). The area under the curve for predicting metabolic syndrome was significantly higher for APA FAI (0.790) than subcutaneous, visceral, and RS FAI in all groups (0.649, 0.647, and 0.655, respectively).

Conclusion:

Both metabolic syndrome and obesity were associated with lower RS and APA adipose tissue FAI, and APA FAI performed best for predicting metabolic syndrome.

P-008

ACROMEGALY AND BARIATRIC SURGERY: IS IT A SOLUTION FOR COMORBIDITIES? A CASE REPORT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Acromegaly is a syndrome characterized by increased secretion of growth hormone (GH). This syndrome is in general caused by a pituitary adenoma that can be approached by transsphenoidal pituitary surgery. Even though acromegaly is a rare syndrome, its comorbidities are relevant considering the correlation with morbimortality related to cardiovascular, respiratory and metabolic disorders. Even with successful hormonal treatment by GH seric levels stabilization after pituitary surgery, controlling comorbidities such as systemic arterial hypertension (SAH), sleep apnea and dyslipidemia seem to be a challenge in acromegaly therapy. Although acromegaly is very commonly related to morbid obesity, which is an independent factor for all the comorbidities mentioned and has its surgical treatment well established to control these disorders. The reported case shows a 46-year-old female patient with acromegaly that drastically improved life quality after Roux-en-Y gastric bypass (RYGB) surgical intervention by solving comorbidities that were not attenuated even after 22 years of transsphenoidal hypophysis surgery. After a 180-day follow up the clinical outcome achieved significant attenuation of SAH, dyslipidemia, sleep apnea and articular chronic pain. This case suggests, within its limitations, RYGB as an alternative to patients with obesity and acromegaly after hormonal and endocrinological stabilization, mainly after pituitary surgery.

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P-009

ACTION PROTOCOL IN PATIENTS WITH WEIGHT REGAIN AFTER BARIATRIC SURGERY

Management of weight regain after surgery

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Introduction:

Bariatric surgery is the most effective treatment for moderate obesity (body mass index (BMI) 35–39.9) and severe obesity (BMI 40). Following surgery, patients often experience complete or partial resolution of obesity-related co-morbidities with weight loss, but may struggle with inadequate weight loss or weight regain. Weight regain, and inadequate weight loss, are problems that require additional therapies other than surgery.

Objectives:

Describe the study protocol and treatment of patients who underwent bariatric surgery with weight reganance.

Methods:

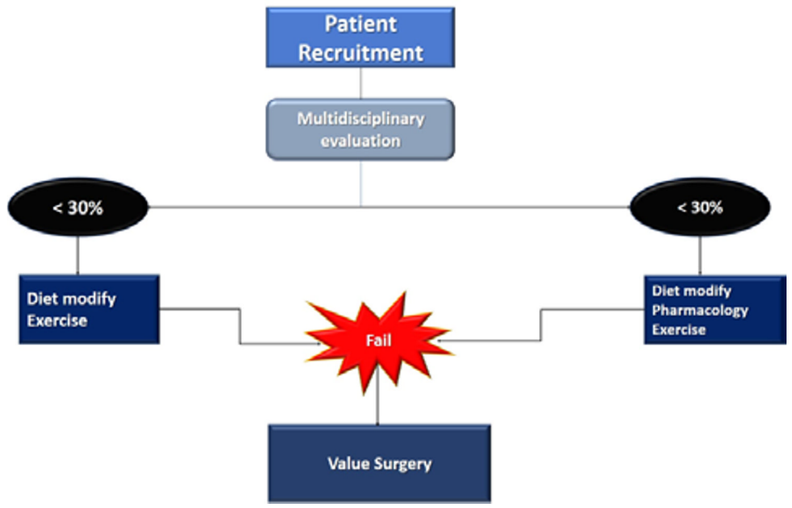
We received 155 requests, 96(61.93%) women; 59(38.17%) men, for care between January 2016 and January 2020. Average age 37.9 years; 98(63.2%) was sleeve, 57(36.7%) gastric bypass. The mean regain rate was 39.97% of excess weight lost. All patients underwent bioimpedance and evaluation by multidisciplinary team.

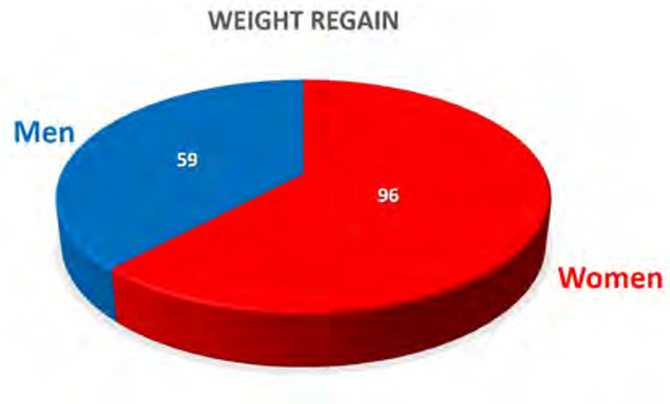
Results:

Patients with <30% weight reganancia were managed with dietary changes, psychological monitoring and physical trainer. Patients with >30% also received phentermine/topiramate pharmacotherapy. Patients with management failure were protocolized for evaluation of the surgical anatomy and valuate conversion of sleeve to bypass or lengthening. 65 (32%) were candidates for surgery; 51 (78.46%) underwent sleeve / bypass conversion; 14 (21.5%) lengthening surgery.

Conclusions:

It's very important the assessment and preparation of the patient by multidisciplinary team to select the best technique and appropriate time for surgery. Returning to bad habits is the common denominator in all patients with weight reganance.





P-010

ADHERENCE TO MULTIVITAMIN SUPPLEMENTATION AFTER VIRTUAL COGNITIVE DISSONANCE INTERVENTION IN BARIATRIC SURGERY PATIENTS

Behavioral health and bariatric surgery - pre and post-op challenges

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Introduction:

Micronutrient deficiency in bariatric population is a major health issue with a global incidence of around 50%; therefore, a high potency multivitamin supplement is prescribed after bariatric surgery. However, close to 70% of patients do not adhere to this prescription. Non-adherence has been linked to a lack of knowledge and cognitive-behavioral factors. Interventions based on Cognitive Dissonance (CD) have proven to be effective in modifying the behavior of patients, including the bariatric population. CD has been applied in virtual interventions in the past. We considered this to develop a virtual CD intervention to improve adherence to the prescribed multivitamin supplementation compared to a psychoeducational (PE) session.

Objective:

This study aims to evaluate the effect of two interventions, one based on CD and one on PE, focused on increasing the level of knowledge and adherence to bariatric multivitamin supplementation evaluated by an adherence test and corroborated by blood serum levels of hemoglobin, iron, Vit-D, calcium, phosphorous and folate.

Methods:

Clinical Trials Randomization (RTC).(n=34) participants with SG or RYBG surgical techniques were selected from a private bariatric center in Tijuana, Mexico (USA border city). The methodology of the study is shown in Figure 1. Pre and post-test measurements included the application of instruments to measure the participant's level of knowledge on multivitamin supplementation and therapeutic adherence. A blood sample was taken for micronutrient quantification as an indicator of adherence. Sessions were conducted every two weeks, lasting 90 minutes each. All participants were prescribed and dispensed a Bariatric Advantage Multi EATMchewable multivitamin in enough doses for three months. The effect of interventions on supplement knowledge, adherence, and micronutrient concentrations were determined by repeated measures ANOVA. This RCT was registered on ClinicalTrials.gov ID: NCT04612088.

Results:

32 participants (26 women and 6 men) completed the follow-up, with an average age of 38.9 ± 10.5 years. The rest of the demographic data is contained in Table 1. A significant difference post-test was found between groups on level of knowledge (p=0.03) and adherence to the supplement (p=0.002) Figure 2. The CD group showed higher levels of hemoglobin, iron, vitamin D, folate, phosphorus, and calcium in the post-test (Table 2), which correlated with higher adherence and knowledge about.

P-011

ALLURION GASTRIC BALLOON PROGRAM IS AN EMERGING NOVEL TREATMENT FOR TYPE 2 DIABETES AND PREDIABETES

Type 2 diabetes and metabolic surgery

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Background:

Obesity and Type 2 Diabetes continue to increase worldwide, and medications as primary treatment may not be sufficient. Although bariatric surgery is effective, it is often refused by patients. Allurion Gastric Balloon System (AGBS), also known as Elipse, offers a minimally invasive and effective method for managing obesity and associated co-morbid conditions.

Objective:

The objective of this study is to determine the safety and efficacy of AGBS in Type 2 Diabetic and Prediabetic patients.

Methods:

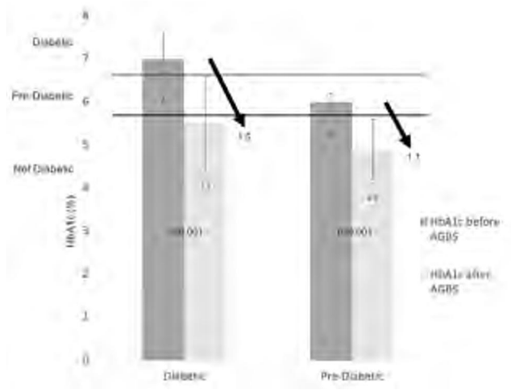
Data were retrospectively analyzed from 5 obesity centers. All patients that underwent AGBS treatment with HbA1c values in the prediabetes range (HbA1c 5.7–6.4%) or diabetes range (HbA1c ≥6.5%) were included in the study. AGBS was swallowed without endoscopy or anesthesia. Follow-up was performed monthly. Data was collected on weight-loss (WL)(kg), BMI Loss (BMIL)(kg/m2), percent total body weight loss (%TBWL), percent excess weight loss (%EWL), and glycated hemoglobin (%HbA1c).

Results:

226 patients (135F, 91M) met the inclusion criteria for the study with mean baseline HbA1c, weight and BMI of 6.3±0.6%, 108.4±21.7kg and 37.3±5.7kg/m2 respectively. After 4 months of treatment, weight loss, %TBWL, %EWL, and BMIL were 17.7±7.1kg, 16.2±5.5%, 57.2±32.5% and 6.1±2.4kg/m2 respectively. Of the 226 patients enrolled, 78 were diabetic and 148 prediabetic. At the end of treatment, the HbA1c value in the diabetic group decreased from 7.0±0.6% to 5.5±1.1% (p<.0001) with a mean WL of 19.3±7.1kg. HbA1c of prediabetic group decreased from 6.0±0.2% to 4.9±0.7% (p<.0001) with a mean WL of 16.9±7.0kg. Five balloons were endoscopically removed for intolerance. One gastric dilation occurred requiring NG tube and balloon removal. No other adverse events were noted.

Conclusion:

AGBS is safe and effective for overweight and obese patients with both Type 2 Diabetes and Prediabetes. Highly significant reduction in HbA1c was achieved in just 4 months of treatment. Average HbA1c in both diabetics and prediabetics reverted to normal values. Further studies will determine long-term results.



P-012

AN EVALUATION OF BARIATRIC SURGERY TOURISM BY BRITISH PATIENTS IN EUROPE

Bariatric surgery tourism

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Background:

In England, 28% of adults suffer from obesity, with close to 4 million adults being eligible for bariatric surgery. Despite estimates that a 1% decrease in the BMI of every adult would gain 3 million Quality Adjusted Life Years, only 7011 operations were performed in 2018/19 in England. With waiting lists ballooning due to the pandemic, the trend of UK patients seeking private bariatric surgery will accelerate, and many are choosing to engage in bariatric surgery tourism to save money. However, with uncertain standards, inconsistent aftercare, and a recent death of a 25-year-old man post sleeve gastrectomy (SG), questions regarding safety are arising.

Objective:

To compare prices of common bariatric operations in the UK and in popular European destinations and assess whether they adhere to BOMSS (British Obesity & Metabolic Surgery Society) 2020 guidelines for pre- and post-operative care.

Methods:

We assessed the first 70 results of google searches with the terms “weight loss surgery abroad” and “weight loss surgery Europe”. 26 clinics met the inclusion/exclusion criteria and marketed bariatric surgery towards Britons. We got prices and answers to a list of questions from their websites and by calling clinics directly.

Results:

The median price of a Roux-en-Y gastric bypass was £10,200 in the UK, compared to £5019 in Europe, including accommodation and transfers. For SG it was £9950 and £4630 respectively. Clinics in Turkey were the cheapest and those in Belgium were the dearest of the included sites. Compliance with BOMSS guidelines were mixed. All clinics provided pre-operative consultations, blood tests, nutritional and anaesthetic assessments, but these were almost exclusively done 1 day pre-op on-site. Discharge letters in English were provided and follow-up care of 2 to 5 years included the support of a bariatric dietitian, but only one provided a UK based dietitian. Blood tests as recommended by BOMSS were left to GPs to do.

Conclusions:

Prices in the UK were roughly double their European counterparts. The tourism clinics generally adhered to BOMSS guidelines but fell short on first year blood and nutrition monitoring. Pre-operatively, assessments being done the day before the operation on-site risk increasing the threshold for delaying or cancelling surgery due to logistical pressures. Partnering with UK clinics for pre- and post-operative care, as some clinics do, could improve safety while keeping costs low for patients.

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POSTER ABSTRACTS

P-013

ANALYSIS OF SINGLE INSTITUTION TRENDS AND WEIGHT LOSS AFTER REVISIONAL SURGERY FOR WEIGHT REGAIN

Registries and quality in bariatric surgery

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Background/Introduction:

A growing number of bariatric surgery patients have revisional surgery performed for post-surgical weight regain. There is no consensus on indications for surgery, expectations, or guidelines for aftercare.

Objectives: We reviewed a single institution's metabolic and bariatric surgery accreditation quality improvement program (MBSAQIP) registry data for non-primary bariatric surgery to understand the revisional surgery patient population, types of surgery performed, weight loss outcomes, and follow up rates.

Methods: All patients with a history of bariatric surgery who had additional revisional surgery at our institution between 2015-2019 were reviewed using the MBSAQIP data registry. Patients were sorted by common procedural technology (CPT) code to determine type of surgery then filtered by bariatric-revision type, body mass index (BMI) at time of surgery (>35 or <35), and if indication for surgery was weight regain. Surgery types and BMI at 1 and 2 years post-revision were collected.

Results:

Of the 1397 procedures that met criteria, 343 were not-primary (25%), and of those, 270 were not related to weight regain (band removal only, BMI<35, surgery for complications like ulcer, stenosis) resulting in 73 revisional surgeries for weight regain in patients with BMI>35kg/m2 (5.2% total volume). Revisions were most common to the adjustable gastric band (72%), followed by the gastric sleeve (18%), gastric bypass (7%) and vertical banded gastroplasty (4%). Of the patients who had revision surgery (N=73, 90% female, 50 years, 78% white, average BMI=45+/-5.7), 82% (N=60) had weight documented at 1 year and 40% (N=29) at 2 years post-revision. BMI was reduced from 45 kg/m2 to 36 kg/m2 at 1 year, and 35 kg/m2 at 2 years, demonstrating an average loss of 10 BMI points 2 years post revision.

Conclusion:

As a growing number of patients experience weight regain after primary surgery, we should expect to see growing rates of surgical revisions. The current MBSAQIP data registry does not provide reports to analyze a center's revisional surgery volume and trends, making identification of appropriate patients more difficult. Complex revisions and variable coding make it difficult to categorize revision types, and long-term follow up is difficult. In this patient population (older and more female/white), we saw meaningful weight loss (average reduction of 10 BMI points 1-2 years post-revision), and follow up rates similar to primary surgery.

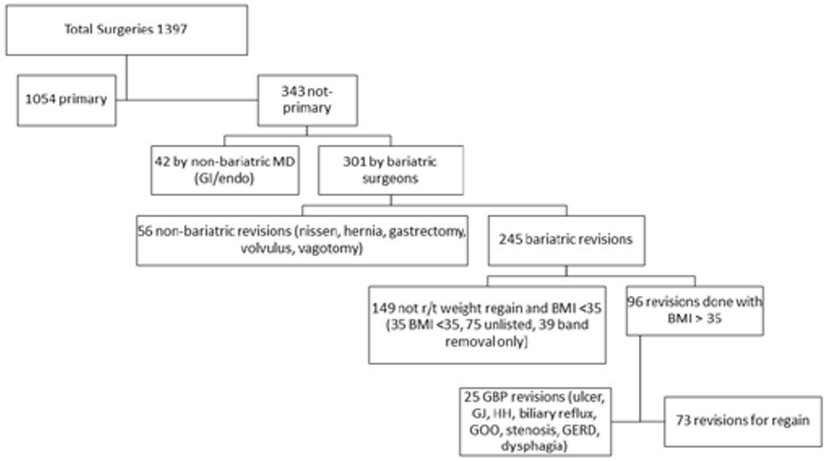

Figure 1: Single center bariatric operations performed between 2015-2019

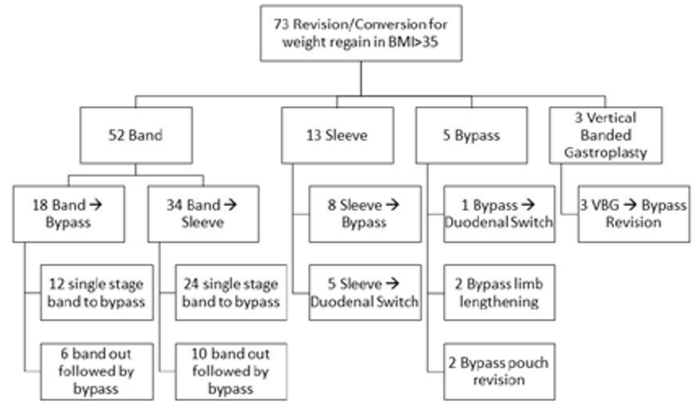

Figure 2: Revisional bariatric surgery based on types of operation

P-014

ANEMIA REFRACTARIA A TRATAMIENTO ORAL EN MUJERES POSTOPERADAS DE BYPASS GÁSTRICO

Pre and post nutritional deficiencies

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Antecedentes:

El Bypass Gástrico en Y de Roux se puede asociar con numerosas formas de deficiencia nutricional. La deficiencia de hierro y la anemia resultante son las principales complicaciones nutricionales del BGYR, se ha visto una diferencia significativa en el sexo femenino con necesidad de hierro parenteral.

Objetivos:

Identificar pacientes mujeres sometidas a cirugía bariátrica que presentaron anemia refractaria a suplementación oral durante su seguimiento postquirúrgico, y que requirieron infusión parenteral con hierro.

Métodos:

Estudio retrospectivo, longitudinal, descriptivo. Se analizaron todos los casos sometidos a cirugía bariátrica en una Institución entre Noviembre de 2012 y Julio de 2018, con al menos un año de seguimiento. Se determinó la incidencia de anemia a 0, 12, 18 y 24 meses, y se describieron las características de los pacientes que recibieron terapia parenteral con hierro.

Resultados:

En el periodo de estudio se realizaron 611 cirugías bariátricas: 525 bypass gástrico (418 en mujeres y 107 en hombres) y 86 gastrectomías verticales (65 en mujeres y 21 en hombres) en manga). En cuanto a las características basales, la hemoglobina promedio fue 13.5 g/dL, el 6.8% presentó anemia preoperatoria con edad promedio de 39.4 años. En el seguimiento postoperatorio, la prevalencia de anemia en postoperados de manga gástrica en mujeres fue de 5.1%, 2.3% y 3.4%, a 12, 18 y 24 meses respectivamente vs 1.6%, 1.1% y 2.3% en hombres; y en el seguimiento postoperatorio, la prevalencia de anemia en postoperados de bypass. en mujeres fue de 17.5%, 17.5% y 12.9%, a 12, 18 y 24 meses respectivamente vs 0%, 0.1% y 0.1% en hombres. El 8.8% del total de pacientes requirió infusión parenteral de hierro, siendo el 100% de mujeres las que requirieron este tratamiento y el 22.2% contaba con antecedente de trastorno ginecológico. El tiempo promedio para la primera infusión parenteral de hierro fue de 18.1 meses. El 98.1% de los casos que requirieron infusión con hierro fueron relacionados a bypass gástrico. Se realizó en promedio 2.2 infusiones por paciente.

Conclusiones:

La anemia en pacientes sometidos a cirugía bariátrica es frecuente, asociándose al sexo femenino, comorbilidades ginecológicas y bypass gástrico. La mayoría de los casos de anemia refractaria a tratamiento con suplementación oral sucedió en mujeres, por lo que se podría replantear ofrecer otro tipo de tratamiento si cuentan con factores predisponentes.

P-015

ASSOCIATION OF HYPERCHOLESTEROLEMIA WITH GASTRIC INTESTINAL METAPLASIA: ANALYSIS OF SLEEVE GASTRECTOMY SPECIMENS

Sleeve gastrectomy

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Background/Introduction:

Intestinal metaplasia (IM) is a pre-malignant lesion in which the intestinal mucin containing cells replace the normal cells of stomach. It has an increasing the risk of dysplasia and intestinal type gastric adenocarcinoma up to six times. Pathology review in vertical sleeve gastrectomy (VSG), as the most common weight loss procedure can indicate the overall prevalence of IM in candidates for bariatric surgery.

Objectives:

The aim of this study to investigate the prevalence of intestinal metaplasia in gastric sleeve specimens and its relationship with other comorbidities and patient's demographic factors.

Methods:

The records of 862 consecutive patients who underwent VSG for morbid obesity, performed by 3 bariatric surgeons at an academic teaching hospital from February 2011 to December 2018 were analyzed.

Results:

The study resulted in that intestinal metaplasia was the only associated factor with cholesterol level. (OR: 1.95; 95% CI: 1.1, 3.5) with considering desired total cholesterol, LDL, and TG level less than 200, 130, and 150 mg/dl respectively and HDL level higher than 40 mg/dl.

Conclusion:

Dyslipidemia as an independent risk factor for IM and even potential gastric carcinoma. Thus, it can lead us to obtain to more screening test in IM patients with dyslipidemia or treat hypercholesterolemia as a treatment option for IM. Nevertheless, pathology evaluation of VSG specimens is necessary and may provide a guidance especially in patients with IM and other pre-malignant factors such as hypercholesterolemia.

P-016

BAJA DE PESO AL AÑO EN PACIENTES CON OBESIDAD SOMETIDOS A GASTRECTOMÍA EN MANGA: DESCRIPCIÓN COHORTE DE PACIENTES SOMETIDOS A GASTRECTOMÍA EN MANGA EN EQUIPO MULTIDISCIPLINARIO EN CLÍNICA LAS CONDES

Integrated health

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Introduccións:

Se realizará un estudio observacional analítico de una cohorte histórica de pacientes operados en Clínica las Condes de Gastrectomía en Manga Laparoscópica, evaluados a los 12 meses posteriores a la cirugía y que cuente con al menos 3 controles del equipo multidisciplinario durante el periodo comprendido entre el 01 enero del 2015 hasta el 30 de septiembre del 2018.

Objetivos:

Descripción de la pérdida de peso en los pacientes portadores de obesidad que fueron sometidos a Gastrectomía en Manga en el centro de nutrición y cirugía bariátrica de Clínica las Condes, para caracterizar los Resultados:obtenidos durante el primer año post cirugía.

Método:

Estudio Observacional Analítico Retrospectivo

Resultados:

La descripción de la baja de peso en población portadora de obesidad que será sometida a cirugía bariatrica en el primer año post cirugía, permite tener un parámetro de referencia de los Resultados:esperados en población latina, específicamente Chilena para los controles post quirúrgicos de los pacientes sometidos a manga gástrica.

Conclusión:

La baja de peso en pacientes portadores de Obesidad sometidos a Gastrectomía en Manga con buena adherencia a un equipo multidisciplinario luego de un año post cirugía, es mayor a la baja de peso reportada en la literatura.

P-017

BANDED SLEEVE GASTRECTOMY (BSG) VS NON-BANDED SLEEVE GASTRECTOMY(NBSG): A SYSTEMATIC REVIEW

Banded procedures

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Introduction:

Laparoscopic Sleeve Gastrectomy has become the most popular bariatric procedure worldwide. There are concerns for weight loss failure. Banded sleeve gastrectomy (BSG) might enhance the weight loss and decrease weight regain with a possible increased risk of complications.

Methods:

A systematic search was performed independently by two authors across MEDLINE, Google Scholar, Embase using the PRISMA guidelines. All studies in the English literature comparing LSG and primary BSG were included irrespective of the sample size. Risk of bias assessment was performed using the Newcastle-Ottawa scale for retrospective studies and the Cochrane risk assessment tool (RevMan. Version 5.4.1) for randomized control trials.

Results:

The search strategy revealed a total of 4502 (MEDLINE 902; Google Scholar 3340; Embase 260) articles. Finally, a total of four retrospective comparative studies and two randomized trials were included. The studies used a band with a diameter of 6.5 – 7.5 cm placed 4 – 5 cm below the gastroesophageal junction. The weight loss was found to be similar in both the groups until a follow up of 12 months. There was a significantly higher weight loss and lesser weight regain in the BSG group at 3-5 years of follow up. Lack of routine hiatal hernia repair and appropriate methodology in the studies resulted in an incomprehensive conclusion as far as symptoms of reflux were concerned. Incidence of vomiting and regurgitation was found to be significantly higher in the banded group.

Conclusion:

Weight loss following BSG is higher than LSG at 3-5 years of follow up. However, there is a significantly increased risk of regurgitation following BSG. Evaluation of reflux following BSG requires studies with robust methodology. Band related complications occur at an acceptable rate with the use of loosely fitting band at a diameter of 7-7.5 cm.

P-018

BARIATRIC SURGERY AND ATHEROGENIC PROFILE – A SHORT-TERM RESOLUTION

Cardiovascular risk and bariatric surgery

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Obesity is a risk factor for the incidence of various diseases, such as non-alcoholic fatty liver disease.

Objective:

To assess the atherogenic risk of the lipid profile pre and postoperative period of patients submitted to Y Roux gastric bypass.

Methods:

Retrospective, descriptive and cross-sectional study, quantitative approach, by Consulting the database, from March 2018 to march 2019. Patients undergoing BC in the period from March 2014 to March 2016. Bodyweight, body mass index, total cholesterol (TC), high-density lipoprotein (HDL-c), low-density lipoprotein (LDL-c), and triglycerides (TG) before and after six months of surgery. From the serum lipids, the most atherogenic lipid profile was evaluated using the TG/ HDL-c. For all data, the results were considered significant ($p<0,05$). The analyzes of the quantitative data were described by means and standard deviations and the longitudinal variability of the quantitative medians were evaluated using generalized estimation equations.

Results:

Thirty patients were evaluated, 83.3% of whom were female. All of them showed a reduction in the %EWL, between the time 0 and 6 months, just as, in both groups (G1<70%) and (G2≥70%) respectively, there was a reduction in TG, TC, LDL-c, with a decrease in the frequency of dyslipidemia and cardiovascular risk after six months.

Conclusion:

In just six months postoperatively patients were removed from the most atherogenic profile, an important resolution in the short-term, and consequently, BC was effective in improving the lipid profile and cardiovascular risk.

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P-019

BARIATRIC SURGERY AND MULTIPLE HEALTH-RELATED OUTCOMES: AN UMBRELLA REVIEW OF META-ANALYSES

Integrated health

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Background:
The number of bariatric surgeries has increased rapidly worldwide.

Objective:
This study aims to determine how bariatric surgery affected various health-related outcomes other than weight loss.

Methods:
An umbrella review of meta-analyses.

Results:
Fifty-four outcomes extracted from 27 meta-analyses were analyzed. Bariatric surgery was associated with a lower risk of multiple cancers and decreased cancer mortality, all-cause mortality, and cardiovascular mortality. Besides, bariatric surgery improved health quality and multiple chronic diseases, particularly the type 2 diabetes, cardiovascular diseases, urinary incontinence, and nonalcoholic fatty liver disease. Several functional outcomes including sexual function, pulmonary function, renal function, and physical activity were improved after bariatric surgery. However, Bariatric surgery also increased the risk of suicide, self-harm, emotional eating, and adverse perinatal outcomes.

Conclusions:
The majority of health-related outcomes were improved after bariatric surgery, but it should be cautious that bariatric surgery might increase the risk of adverse mental and perinatal problems.

Original Scientific Data:

Table 1. Comparisons of outcomes between participants with and without bariatric surgeries

Outcome	Author, year	Follow-up	Type of bariatric surgery	Comparison	Type of studies in MA	No. of studies and participants in MA	Metric of MA	Effects model	Effect size, 95% CI	P heterogeneityor I2 %	Publication bias	Small-study effects	Quality of evidence
Risk of total cancer	Zhang, K., et al, 2020	> 3 years	NR	Surgery vs. Non-surgery	Observational studies	13; 7 981 574	OR	REM	0.56, 0.46 to 0.68	P<0.001	No	No	Low
Risk of breast cancer	Zhang, K., et al, 2020	> 3 years	NR	Surgery vs. Non-surgery	Observational studies	7; 201 014	OR	REM	0.49, 0.33 to 0.72	P<0.001	NR	NR	Very Low
Risk of pancreatic cancer	Zhang, K., et al, 2020	> 3 years	NR	Surgery vs. Non-surgery	Observational studies	3; 111 444	OR	REM	0.70, 0.24 to 2.01	62.7%	NR	NR	Very Low
Risk of colorectal cancer	Almazeedi, S., et al, 2020	Range 3 to 12.5 years	RYGB, SG, AGB, VBG	Surgery vs. Non-surgery	Observational studies	7; 1 213 727	RR	REM	0.64, 0.42 to 0.98	85%	No	No	Low
Risk of endometrial cancer	Ishihara, B. P., et al, 2020	Range 3 to 18.1 years	RYGB, SG, VBG	Surgery vs. Non-surgery	Observational studies	7; 1 270 758	RR	REM	0.33, 0.21 to 0.51	88%	NR	NR	Very Low
Risk of ovarian cancer	Ishihara, B. P., et al, 2020	Range 3 to 18.1 years	RYGB, SG, VBG	Surgery vs. Non-surgery	Observational studies	3; 7 124	RR	REM	0.47, 0.27 to 0.81	0%	NR	NR	Very Low
Risk of esophageal cancer	Wiggins, T., et al, 2019	NR	GB, SG, VBG	Surgery vs. Non-surgery	Observational studies	3; 191 758	OR	REM	0.79, 0.43 to 1.44	0%	NR	NR	Very Low
Risk of prostate cancer	Wiggins, T., et al, 2019	NR	GB, SG, VBG	Surgery vs. Non-surgery	Observational studies	3; 46 749	OR	REM	0.82, 0.39 to 1.73	77.4%	NR	NR	Very Low
Cancer mortality	Zhang, K., et al, 2020	> 3 years	NR	Surgery vs. Non-surgery	Observational studies	10; 832 454	OR	REM	0.55, 0.41 to 0.75	P<0.001	Yes	Yes	Very Low
All-cause mortality	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	11; 898 185	OR	REM	0.62, 0.55 to 0.69	71.8%	No	No	Low
Cardiovascular mortality	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	3; 558 960	OR	REM	0.50, 0.35 to 0.71	29.2%	NR	NR	Very Low
Mental health quality of life (QoL instruments)	Szmulewicz, A., et al, 2019	Range 12 to 120 months	RYGB, SG, AGB,	Surgery vs. Non-surgery	Clinical trials	7; 431	MD	REM	0.02, -0.22 to 0.25	25%	No	No	Low
Risk of suicide	Castaneda, D., et al, 2019	Range 8 to 10 years	RYGB	Surgery vs. Non-surgery	Observational studies	3; 132 314	OR	REM	4.15, 3.20 to 5.38	75%	NR	NR	Very Low
Health quality of life (SF-36 general health domain)	Driscoll, S., et al, 2016	Range 5 to 25 years	RYGB, AGB, VBG	Surgery vs. Non-surgery	Clinical trial and observational studies	6; 2 704	MD	REM	17.13, 6.53 to 27.73	96%	NR	NR	Very Low
Risk of type 2 diabetes	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	6; 595 735	OR	REM	0.39, 0.18 to 0.83	99.4%	Yes	NR	Very Low
Risk of hypertension	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	5; 73 933	OR	REM	0.36, 0.32 to 0.40	32.2%	No	No	Low
Risk of dyslipidaemia	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	2; 49 938	OR	REM	0.33, 0.14 to 0.80	98.6%	NR	NR	Very Low
Risk of ischemic heart disease	Wiggins, T., et al, 2020	Range 18 to 144 months	GB, SG, AGB, VBG, BPD	Surgery vs. Non-surgery	Observational studies	5; 52 210	OR	REM	0.46, 0.29 to 0.73	78.8%	No	No	Very Low
Progression of diabetic retinopathy	Kim, Y. J., et al, 2017	Range 6 to 60 months	GB, SG, AGB	Surgery vs. Non-surgery	Clinical trial and observational studies	4; 426	OR	REM	0.47, 0.22 to 0.99	0%	NR	NR	Very Low
Risk of fracture	Ablett, A. D., et al, 2019	Range 12 to 24 months	RYGB, SG, AGB	Surgery vs. Non-surgery	Clinical trials	3; 365	RR	REM	0.82, 0.29 to 2.35	0	NR	NR	Low
Risk of kidney stones	Thongprayoon, C., et al, 2016	Range 2.3 to 6 years	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Clinical trial and observational studies	4; 11 348	RR	REM	1.22, 0.63 to 2.35	83%	No	No	Very Low
Perinatal mortality	Akhter, Z., et al, 2019	NR	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Observational studies	10; 219 929	OR	REM	1.38, 1.03 to 1.85	12%	No	No	Moderate
Congenital anomalies	Akhter, Z., et al, 2019	NR	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Observational studies	10; 262 350	OR	REM	1.29, 1.04 to 1.59	28%	No	No	Moderate
Preterm birth	Akhter, Z., et al, 2019	NR	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Observational studies	9; 220 843	OR	REM	1.57, 1.38 to 1.79	21%	No	No	Moderate
Postterm birth	Akhter, Z., et al, 2019	NR	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Observational studies	5; 9 257	OR	REM	0.46, 0.35 to 0.60	7%	No	No	Low
NICU admission	Akhter, Z., et al, 2019	NR	RYGB, SG, AGB, BPD	Surgery vs. Non-surgery	Observational studies	9; 13 035	OR	REM	1.41, 1.25 to 1.59	0	No	No	Moderate

AGB= adjustable gastric banding; BPD= biliopancreatic diversion; CI= confidence intervals; FEM= fixed effects model; JIB= jejunoileal bypass; MA= meta-analysis; MD= mean difference; MEM= mixed-effects model; NICU= neonatal intensive care unit; NR= not reported; OR= odds ratios; QoL= quality of life; REM= random effects model; RR= relative risk; RYGB= Roux-en-Y gastric bypass; SG= sleeve gastrectomy; VBG= vertical banded gastroplasty.

Table 2. Comparisons of outcomes before and after bariatric surgeries

Outcome	Author, year	Follow-up	Type of bariatric surgery	Comparison	Type of studies in MA	No. of studies and participants in MA	Metric of MA	Effects model	Effect size, 95% CI	P heterogeneityor I2 %	Publication bias	Small-study effects	Quality of evidence
Emotional eating (TFEQ)	Wong, L. Y., et al, 2020	Range 3 to 48 months	RYGB, SG	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	8; 258	MD	REM	0.90, 0.60 to 1.21	56%	No	No	Very Low
Emotional eating (DEBQ)	Wong, L. Y., et al, 2020	Range 3 to 48 months	RYGB, SG, VBG, VBG	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	7; 2 316	MD	REM	0.74, 0.54 to 0.94	49%	No	No	Low
Mental health quality of life in adolescent (SF-36 Mental Component Score)	Trooboff, S. W., et al, 2019	Range 9 to 94 months	RYGB, SG, AGB	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	9; 573	MD	REM	1.40, 0.95 to 1.86	89%	No	No	Very Low
risk of self-harm	Castaneda, D., et al, 2019	Range 24 to 36 months	RYGB, SG, AGB, VBG	Post-surgery vs. Pre-surgery	Observational studies	3; 43 406	OR	REM	1.90, 1.23 to 2.95	99%	NR	NR	Very Low
Physical activity (0-6 months)	Adil, M. T., et al, 2019	Range 0 to 6 months	RYGB, SG, AGB	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	12; 375	MD	REM	0.50, 0.25 to 0.76	63%	Yes	Yes	Very Low
Physical activity (6-12 months)	Adil, M. T., et al, 2019	Range 6 to 12 months	RYGB, SG, AGB	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	10; 884	MD	REM	0.58, 0.26 to 0.91	89%	Yes	No	Very Low
Female sexualfunction (FSFI)	Gao, Z., et al, 2020	Range 3 to 48 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Observational studies	16; 881	MD	REM	-5.15, -7.76 to -2.55	94%	No	No	Very Low
Male sexualfunction (IIEF)	Xu, J., et al, 2019	Range 1 to 18 months	RYGB, SG	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	6; 165	MD	FEM	8.20, 5.52 to 10.88	9%	No	No	Very Low
Pulmonary function score	Alsumali, A., et al, 2018	Range 3 to 24 months	GB, SG, AGB	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	11; 701	MD	REM	0.59, 0.46 to 0.73	46%	No	No	Moderate
Renal function (creatinine)	Bilha, S. C., et al, 2018	Range 6 to 24 months	GB, SG, AGB, BPD	Post-surgery vs. Pre-surgery	Observational studies	17; 931	MD	REM	-0.08, -0.10 to -0.06	71%	Yes	Yes	Very Low
Renal function (GFR)	Bilha, S. C., et al, 2018	Range 6 to 24 months	GB, SG, AGB, BPD	Post-surgery vs. Pre-surgery	Observational studies	13; 824	MD	REM	-3.07, -13.89 to 7.74	100%	Yes	No	Very Low
Thyroid function (TSH)	Guan, B., et al, 2017	Range 10 days to 108 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	23; 1 114	MD	REM	0.52, 0.20 to 0.83	91%	No	No	Low
Thyroid function (FT3)	Guan, B., et al, 2017	Range 10 days to 108 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	12; 559	MD	REM	1.59, 0.35 to 2.84	98%	No	No	Low
Thyroid function (FT4)	Guan, B., et al, 2017	Range 10 days to 108 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	18; 909	MD	REM	-0.11, -0.77 to 0.55	97%	No	No	Low
Thyroid function (T3)	Guan, B., et al, 2017	Range 10 days to 108 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	8; 222	MD	FEM	1.05, 0.85 to 1.25	17%	No	No	Low
Thyroid function (T4)	Guan, B., et al, 2017	Range 10 days to 108 months	RYGB, SG, AGB, BPD	Pre-surgery vs. Post-surgery	Clinical trial and observational studies	6; 169	MD	FEM	0.12, -0.10 to 0.34	34%	NR	NR	Very Low
Risk of urinary incontinence in women	Zhang, J. D., et al, 2020	6 months	NR	Pre-surgery vs. Post-surgery	Observational studies	7; 602	OR	FEM	3.27, 2.55 to 4.21	35%	NR	NR	Very Low
Risk of urinary incontinence in women	Zhang, J. D., et al, 2020	12 months	NR	Pre-surgery vs. Post-surgery	Observational studies	6; 1 942	OR	REM	4.04, 2.62 to 6.22	68%	NR	NR	Very Low
Back pain (VAS)	Stefanova, I., et al, 2020	Range 3 to 24 months	RYGB, SG, AGB, VBG	Post-surgery vs. Pre-surgery	Observational studies	7; 228	MD	FEM	-3.01, -4.13 to -1.89	83%	NR	NR	Very Low
Remission of type 2 diabetes	Rubio-Almanza, M., et al, 2019	Range 6 to 42.1 months	RYGB, SG	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	26; 1 182	rate	MEM	0.43, 0.34 to 0.53	NR	NR	NR	Very Low
Improvement of NAFLD (steatosis)	Fakhry, T. K., 2019	Range 8 to 110 months	RYGB, SG, AGB, VBG	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	15; 595	rate	REM	0.88, 0.80 to 0.94	82%	NR	NR	Very Low
Improvement of NAFLD (steatohepatitis)	Fakhry, T. K., 2019	Range 8 to 110 months	RYGB, SG, AGB, VBG	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	10; 462	rate	REM	0.59, 0.38 to 0.78	94%	NR	NR	Very Low
Improvement of NAFLD (fibrosis)	Fakhry, T. K., 2019	Range 8 to 110 months	RYGB, SG, AGB, VBG	Post-surgery vs. Pre-surgery	Clinical trial and observational studies	11; 837	rate	REM	0.30, 0.21 to 0.41	82%	NR	NR	Very Low
PCOS (abnormal menstruation)	Li, Y. J., et al, 2019	Range 6 to 82 months	RYGB, SG, BPD	Post-surgery vs. Pre-surgery	Observational studies	9; 234	RR	REM	0.23, 0.13 to 0.43	74%	NR	NR	Very Low
PCOS (hirsutism)	Li, Y. J., et al, 2019	Range 6 to 82 months	RYGB, SG, BPD	Post-surgery vs. Pre-surgery	Observational studies	4; 69	RR	REM	0.47, 0.28 to 0.79	53%	NR	NR	Very Low
PCOS (serum total testosterone)	Li, Y. J., et al, 2019	Range 6 to 82 months	RYGB, SG, BPD	Post-surgery vs. Pre-surgery	Observational studies	3; 75	MD	FEM	-4.10, -6.97 to -1.23	96%	NR	NR	Very Low
Improvement or resolution rate of urinary incontinence	Lee, Y., et al, 2019	Range 6 to 60 months	RYGB, SG, AGB, BPD, VBG	Post-surgery vs. Pre-surgery	Observational studies	30; 2 772	rate	REM	0.56, 0.48 to 0.63	92.5%	No	No	Very Low
Peripheral Polyneuropathy (NDS)	Aghili, R., et al, 2019	Range 1 to 12 months	RYGB, SG	Post-surgery vs. Pre-surgery	Observational studies	4; 292	MD	REM	-0.63, -1.12 to -0.13	98%	Yes	No	Very Low

AGB= adjustable gastric banding; BPD= biliopancreatic diversion; CI= confidence intervals; DEBQ= Dutch Eating Behavior Questionnaire; FEM= fixed effects model; FSFI= Female Sexual Functioning Index; GFR= glomerular filtration rate; IIEF= International Index of Erectile Function; MA= meta-analysis; MD= mean difference; MEM= mixed-effects model; NAFLD= nonalcoholic fatty liver disease; NDS= neuropathy disability score; NR= not reported; OR= odds ratios; PCOS= polycystic ovary syndrome; REM= random effects model; RR= relative risk; RYGB= Roux-en-Y gastric bypass; SG= sleeve gastrectomy; TFEQ= Three-Factor Eating Questionnaire; VAS= visual analogue score; VBG= vertical banded gastroplasty.

P-020

BARIATRIC SURGERY IN PATIENTS OVER 65 YEARS OLD: THE EXPERIENCE OF A BARIATRIC AND METABOLIC SURGERY CENTER IN PORTUGAL

Bariatric surgery in the over 65s

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Introduction:

Life expectancy has increased in last decades leading to a greater proportion of elderly in world population, and a consequent increase in chronic diseases as obesity. Obesity has a high prevalence in older population and negative impact in their health condition and quality of life and poor response to conservative treatment. Bariatric surgery has currently been shown to be an effective and safe option for this population.

Objective:

To analyse the results of bariatric surgery from patients over 65 years old in a Bariatric and Metabolic Surgery Center in Portugal.

Methods:

Ten patients over 65 years old that were submitted to bariatric surgery (bypass and Sleeve) between 2019 and 2020 were selected. The weight, BMI, and AC was verified at baseline and 6 and 12 months after surgery. Comorbidities were computed at baseline and their evolution were revaluated at each medical visit.

Conclusion:

In the present experience, bariatric surgery showed to be safe and effective in weight loss and in improving comorbidities in patients over 65 years old.

P-021

BARIATRIC SURGERY OUTCOMES IN THE SUPER OBESE COMPARED TO NON-SUPER OBESE AT A NEW INSTITUTION IN THE UNITED ARAB EMIRATES

Endoscopic and percutaneous interventional procedures

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Introduction:

In the United Arab Emirates (UAE), 34% of the population is considered obese, defined as Body Mass Index (BMI) greater than 30 kg/m2.Bariatric surgery has been shown to be an effective treatment for weight loss and improvement of medical co-morbidities. Some studies in the literature suggest that higher BMI patients may lead to higher postoperative complications.

Objectives:

The study aims to compare perioperative outcomes between Super Obese and Non-Super Obese patients. Methods: All patients who underwent primary bariatric surgery at our Institution in the UAE between September 2015 and July 2019 were retrospectively reviewed. Patients with BMI of 50 kg/m2 or greater were considered Super Obese. Patients with BMI less than 50 kg/m2 were considered Non-Super Obese. Thirty-day outcomes were analyzed.

Results:

There were a total of 542 patients: 94 Super Obese and 448 Non-Super Obese. Baseline demographics showed that the Super Obese patients were younger (33.8 ± 13.4 years vs. 37.0 ± 11.5 years) and there were more males (44.7% vs. 37.1%). Median ASA classifications was 3 for both. In the Super Obese cohort, 39.4% underwent Roux-en-Y gastric bypass and 60.6% underwent sleeve gastrectomy. In the Non-Super Obese cohort, 44.4% underwent Roux-en-Y gastric bypass and 55.6% underwent sleeve gastrectomy. There was no statistically significant difference between complication rates (6.4% Super Obese vs. 5.8% Non-Super Obese, p=0.83), emergency department visits (19.1% Super Obese vs. 25.0% Non-Super Obese, p=0.23), re-admission rates (5.3% Super Obese vs. 3.3% Non-Super Obese, p=0.36), re-operation rates (3.2% Super Obese vs. 2.7% Non-Super Obese, p=0.78), and length of stay (average 3.1 ± 3.9 days in Super Obese vs. 2.7 ± 1.3 days in Non-Super Obese, p=0.06). There were no mortalities.

Conclusion:

In our bariatric surgery experience, there was no significant difference in perioperative outcomes between Super Obese and non-Super Obese patients. Although higher BMI may pose operative challenges, bariatric surgery in the Super Obese population do not have worsened outcomes.

P-022

BARIATRIC SURGERY RED FLAG PATIENTS: CAN WE PREDICT WHO ADVANCES TO SURGERY

Behavioral, psycho-social and environmental predictors of bariatric surgery outcomes

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Introduction:

Bariatric surgery patients undergo a rigorous evaluation process prior to surgery. Patients may be “red flagged” by staff due to physiological or behavioral criteria, meaning they warrant further discussion and may need additional services.

Objective:

To evaluate if red flag patients are less likely to undergo surgery, therefore assisting us in determining early on if surgery is the best weight loss tool for patients with certain psychiatric and behavioral factors.

Methods:

Retrospective chart review was performed on patients who entered the bariatric program at Sentara Comprehensive Weight Loss Solutions between the dates of 11/1/16-6/20/20 and were of ages 18-89 years old. Patients were identified with appropriate diagnoses and procedures, including a randomized arm of both red flag patients, who were flagged within dates of 11/1/16-6/20/20, and control patients. Data was collected on age, gender, preoperative weight and BMI, psychiatric history, diet visits attended, reason for red flag, time from initial consult to surgery and weight loss post-surgery. Individual records were accessed via electronic medical records and billing systems. Statistical analysis was performed utilizing SPSS.

Results:

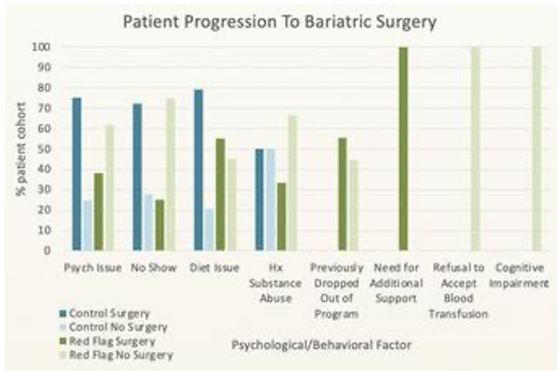
185 control patients and 207 red flag patients were evaluated. 123 control patients (66.49%) and 98 red flag patients (44.93%) underwent bariatric surgery (difference of proportions= 0.2156, 95% CI= 0.1174-0.3077, p-value < 0.001). All groups of red flag patients were less likely to progress to surgery and patients with untreated psychiatric issues (p = 0.0001) and multiple no shows (p < 0.0001) were the least likely to progress to surgery. Failure to comply with dietary guidelines, although significant (p < 0.02), seemed less likely to predict lack of progression to surgery.

Conclusion:

This study confirms red flag patients are less likely to follow through with bariatric surgery. Psychological and behavioral factors influence patient likelihood to undergo bariatric surgery, particularly untreated psychiatric issues and multiple no shows. Future efforts will focus on determining if postsurgical outcomes of red flag patients can be determined preoperatively, providing a path to an evidence-based protocol to yield personalized standard of care for all patients seeking bariatric surgery.

Did the patient have surgery?	Yes	No	Percent	95% Confidence Interval
Reg Flag	93	114	44.9	38.31%-51.74%
Control	123	62	66.49	%59.41%-72.9%

Table 1.



P-023

BILIOPANCREATIC LIMB LENGTH AS DETERMINANT FOR TYPE 2 DIABETES MELLITUS REMISSION IN PATIENTS WITH ROUX-EN-Y GASTRIC BYPASS

Type 2 diabetes and metabolic surgery

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Background:

There has been increased interest in identifying the associated factors to Type 2 Diabetes Mellitus (T2DM) remission after bariatric surgery. One of these factors is the BP limb length.

Objectives:

The objective of our study was to evaluate the T2DM remission rate in patients subjected to Roux-en-Y gastric bypass (RYGB) who had different Biliopancreatic (BP) limbs length.

Methods:

48 patients with obesity grade II, and T2DM diagnosis, were subjected to RYGB and completed a one year of surgical follow up. All patients were grouped according to the BP limb length: In group A (n= 24) patients with BP limbs of 100 cm or less; in group B (n= 24) patients with BP limb from 150 to 170 cm in length.

Results:

Both groups presented an elevated remission rate of T2DM (83% full remission in the population studied). In group A 18 patients (75%) presented a full remission, while 2 patients (8.3%) showed a partial remission and only 4 patients (16.7%) were considered without remission at the one year follow up. In group B all patients had some remission: 22 patients (91.7%) presented a full remission (91.7%) and the rest of the patients showed a partial remission (8.3%), no significant difference was found between the two groups.

Conclusion:

Bariatric surgery remains as the best long term treatment for obesity and its comorbidities, despite some differences in the RYGB technique, BP limb length from 50 to 170 cm did not affect post RYGB glycemic control. On the other hand, a low positive correlation was found between the evolution years with T2DM and HbA1c at one year follow-up. In addition, a low positive correlation was found between age and postoperative HbA1c.

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P-024

BLOWOUT OF THE REMNANT STOMACH AFTER OAGB. A FEARSOME COMPLICATION: CASE REPORT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

The one anastomosis gastric bypass (OAGB) also known as the omega loop gastric bypass is no longer the new kid on the block. In an increasing matter the procedure is now performed in quite some centers as a good alternative to the Roux-en-Y gastric bypass [1]. A lot of advantages are linked to the OAGB [2], but also new pitfalls arise. In this case report we bring awareness to the risk of a blowout of the remnant stomach as a result of an iatrogenic outlet obstruction. The work has been reported in line with the SCARE criteria (3).

Case:

A 48-year-old female comes with a referral from her GP with the question of eligibility for a bariatric procedure. Following the IFSO criteria she is approved in a multidisciplinary approach for surgery after going through a preoperative process guided by a dietician, a psychologist and a physiotherapist. 3 months later she is ready and scheduled for surgery. Her operation date was postponed for a couple of times due to hesitations of the patient. After a low carbohydrate diet of ten days, she underwent an OAGB as planned and consented by the patient. (Picture 1)

The postoperative period was without complications and she had a prosperous recuperation in the first three weeks following the operation. Then, she calls the obesity center regarding a sudden onset of abdominal pain, sweating and trembling. First thoughts went to a dumping phenomenon, so the patient was reassured and explained what to do. In case of ongoing pain, she would first be referred to her general practitioner for a general assessment and, if necessary, transferred to our center. The next day the abdominal pain persevered, so she was referred to our outpatient clinic and immediately sent to the emergency department for further investigation as her clinical appearance was detrimental. Her vital signs are shown in table 1. A blood sample revealed an elevated blood leukocyte level of 17,3x109/L and a CRP of 637 mg/L (The blood values are depicted in table 2). With such elevated inflammatory parameters an abdominal CT scan was warranted. Following pictures show the images of the CT scan. The first noticeable feature was the fluid all over the abdomen. When looking at the left upper quadrant the real issue was becoming clearer. As you can see on images 1 and 2 the spleen is surrounded by fluid and a capsule, the remnant stomach is abnormally filled with fluid and the gastric fundus appears highly irregular. When looking closer at the horizontal staple line in image 3 you see there is very little intraluminal space between the end of the staple line and the lateral wall of the remnant stomach. The radiologist however concluded a primary splenic lesion with surrounding surinfected hematoma and a capsule. After conferring with the radiologist it was nevertheless clear that urgent surgery could not be avoided.

The Reoperation:

Regarding the clinical condition of the patient and the imaging suggesting a gastric remnant blowout, the patient was urgently transferred to the OR. We decided to go for the laparoscopic approach with a low threshold for conversion to laparotomy. The patient was intubated after giving her first antibiotics intravenous. Subsequently we used a Veress needle to achieve pneumoperitoneum. Using the transparent trocars we entered the abdomen. At first glance we saw a lot of purulent fluids adjacent to the liver, in the lower abdomen and surrounding the upper left quadrant. Adhesions were found, as was expected, between the liver and the anastomosis and between the omentum and the abdominal wall. After rigorously peeling off the liver from the anastomosis we gained access to the diaphragm. A sudden relief of stomach fluids confirmed the preoperative suspicion of a blowout. (Picture 2) The fluid was drained and a perforation in the fundus was found. The first step was to mobilize the greater curvature of the stomach finally reaching the spleen. The spleen itself had a normal aspect and was not injured. The next part was the dividing of the sleeve from the remnant stomach to become a full mobilization of the stomach. Finally, after skeletonizing we found the stenotic part just lateral from the overlying anastomosis. The remnant stomach was then transected and resected just distally from the stenosis/obstruction in order to prevent further problems. We asked the anesthesiologist to introduce a 34Ch nasogastric tube and position it just above the anastomosis. The efferent and afferent loops were closed with forceps and methylene blue was injected into the sleeve. There was no leakage of methylene blue in the abdomen. The entire abdominal space was finally inspected, fluids were extensively drained and two 20Ch drains were left behind. One in the upper left quadrant to drain oozing of blood from the inflammatory tissue and another drain in the Douglas pouch as to prevent possible abscedation. The patient was successfully extubated in the OR and

hemodynamically stable transferred to the intensive care for further observation and supportive treatment.

The patient was discharged from the IC the very next day for further care on the ward. Antibiotic therapy was switched from Amoxicillin/clavulanic acid to Piperacillin-Tazobactam as a result of persistent high CRP after 48h and from then on recuperated slowly with a discharge 3 weeks after admission.

Discussion:

As the OAGB becomes more common practice in bariatric surgery [1] not only the advantages are becoming clearer, but so do the pitfalls. A lesson learned from this case is that it is of great importance to meticulously create your pouch. Regarding bile reflux a lot of suggestions were made in making the pouch as long as possible and with a horizontal part as large as possible. The idea behind this is lowering the intragastric pressure and making it easier for the bile to follow the efferent loop downstream rather than going upstream towards the esophagus. However, when placing your first horizontal stapler one must always be aware of leaving enough space from the staplers' end to the greater curvature of the stomach. If you do not take this in consideration you risk causing an outlet obstruction of the future remnant stomach. The subsequent dilation with gastric fluids will eventually lead to a rupture of this stomach, most commonly at the very top of the fundus. As the remnant is excluded from the gastro-intestinal tract, the patient will show little or no symptoms (bloating, nausea, discomfort may appear but are not obligatory) prior to the blowout itself. When the blowout occurs the patient may present with a peritonitis causing fever, elevated inflammatory parameters and significant abdominal pain. Urgent approach is then of the utmost importance. In our opinion we think it is best to resect the entire remnant stomach just distally from where stenosis or occlusion lies. A closure of the blowout with repair of the stenosis seems nearly impossible, but could be an alternative in other cases. The most difficult part was dividing the gastric sleeve from the remnant stomach as they were firmly connected through inflammatory tissue with little difference in aspect and a difficult anatomically distinction. A good postoperative care is necessary as the patient is prone to abdominal abscedation but also pneumonia, atelectasis and pulmonary embolism. The main reason we chose a laparoscopic approach in our patient is accessibility. The upper part of the abdomen is often difficult to reach with a laparotomy, especially in morbidly obese patients. We opted for the Veress needle as the patient was still morbidly obese and an open introduction would not necessarily be better. Nowadays most surgeons have a larger experience in dealing with problems laparoscopically and the postoperative healing of the patient is quicker resulting also in a shorter hospital stay.

The main issue with the laparoscopic approach is the inferior drainage and rinsing of the abdominal cavity, resulting in an increased risk of developing an intra-abdominal abscess. In our case we left two drains as earlier mentioned.

Conclusion:

As a result of growing numbers of OAGB procedures new pitfalls come to rise. There is a relatively high risk of obstructing the remnant stomach compared to the classic RYGB technique. The explanation for this lies in the fact that the level of transsection in an OAGB occurs at a significantly lower and narrower part of the stomach. When positioning and firing off the stapler one must always be aware as not to narrow the outlet. We suggest a maximum insertion and cutting length of maximum 40 mm. Secondly we strongly recommend using a 34Ch nasogastric tube that is able to pass lateral from the stapler towards the pylorus. Nevertheless is awareness and recognition of the problem also very important. The laparoscopic approach is the best way to go with a low threshold for conversion if necessary. We suggest resecting the remnant stomach rather than trying to repair the defect and the obstruction.

Key words: OAGB, Case report, Blowout, Remnant Stomach, Complication

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Table 1. Vital signs

Vital sign	Value	Reference/unit
Pulse	127	Per minute
Tension	166/106 (126)	Mm Hg
Temperature	37,3	Degrees Celsius
Oxygen saturation	95	%
Pain (VAS score)	5	0-10

Table 2. Blood results

marker	value	Unity	Ref. values
Hemoglobin	9.1	mmol/l	7.5-10.0
Hematocrit	0.45	l/l	0.35-0.45
Erythrocytes	5.11	x1012/l	4.0-5.0
Leucocytes	17.3*	x109/l	4.0-10.0
Ureum	7.2	mmol/l	2.5-6.4
Creatinin	101	mmol/l	53-106
eGFR	57	ml/min	>90
Bilirubin total	12	micromol/l	<21
Bilirubin direct	4	micromol/l	<3.4
AF	69	U/l	<125
gGT	22	U/l	<38
ASAT	11	U/l	<31
ALAT	15	U/l	<34
LD	201	U/l	<250
Amylase	<10	U/l	<100
Lactate	1.9	mmol/l	0.5-2.2
CRP	637*	Mg/l	<10

*Highlighted are the values who differ significantly from the normal values.

P-025

BOWEL OBSTRUCTION BY ELLIPSE BALLOON

Endoscopic and percutaneous interventional procedures

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Introduction:

The concept of weight loss using an intragastric balloon (IGB) originated in Rapunzel syndrome, a psychiatric condition that results from trichophagia or ingestion of hair. The trichobezoar (hairball) occupies the stomach causing decreased appetite, postprandial fullness, and weight loss. Concept used to fill the stomach with a pseudo bezoar, to induce weight loss. There are different IGBs, according to the content (gas or liquid), number of balloons numbers, duration and installation route (endoscopic or self-digested).

Elipse (Allurion Technologies) It is an ingestible balloon, it does not require endoscopy or anesthesia. It is filled with water through a catheter and remains in the stomach for 4 months. It then self-deflates and passes through the gastrointestinal tract, avoiding the need for endoscopic removal.

The incidence of complications after balloon installation is: gastric ulcers 2%, balloon migration 1.4%, intestinal obstruction 0.3%, intestinal perforation 0.1% and necrosis of the small intestine 0.08%.

Objective:

39-year-old patient with no relevant history, who received an ELIPSE balloon without incident. Its correct location in the gastric fundus was verified with fluoroscopy.

Three months later, he presented repeated episodes of vomiting, abdominal distention and pain in the left flank, without signs of an acute surgical abdomen. An upper digestive endoscopy (EDA) was performed, which showed an absence of balloon in the stomach and duodenum.

Method:

CT of the abdomen was performed.

The proximity of the balloon to the abdominal wall, and the absence of interposition of other organs, allowed the puncture-aspiration of the balloon under ultrasound guidance.

A control abdominal X-ray at 24 hours shows progression of the balloon to the transverse colon.

48 hours after the puncture, the patient expels the balloon naturally.

Discussion:

Recently Abu Dayyeh BK, et al, published recently 1,770 patients with elipse balloon and only 3 intestinal obstructions (laparoscopic surgical treatment). In Clinica Las Condes, is the first and only case of intestinal obstruction presented, when we had placed approximately 100 Elipse ® balloons.

Conclusions:

The IGB are becoming more and more frequent thanks to the great evolution, but are not without complications. This form of treatment is a good option, which preserves the minimally invasive essence.

P-026

CAN IMMERSIVE VIRTUAL REALITY IMPROVE COMPLIANCE AS PART OF A PREHABILITATION EXERCISE PROGRAM IN BARIATRIC SURGERY?

Physical activity, sedentary behavior, and bariatric surgery

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Introduction:

Exercise before bariatric surgery has been shown to be beneficial in improving recovery, reduce intraoperative complications and enhance weight loss with better long-term outcomes. However, adherence to exercise has always been the problem in the bariatric population as many face barriers relating to body image, pain and discomfort, with low esteem and a lack of confidence in abilities.

Objective:

The aim of this study is to evaluate whether immersive technology through virtual reality (VR) gaming exercises can help to improve compliance and thereby physical fitness before bariatric surgery.

Methods:

20 patients were randomized to virtual reality-based exercises or standard walking advice for 6 weeks before their weight loss surgery. Heart rate (HR) and daily physical activity diary (DPAD) were used to assess adherence and compliance to exercise.

Results:

10 patients undergoing sleeve gastrectomy and 10 undergoing bypass surgery were included, 95% were female, mean age 47 years-old, and mean BMI of 45.5. VR group showed better adherence and compliance to exercise with average use of VR exercise (4.5 days a week, 186 min/week) when compared to non-VR group (3.6 days a week, 65 mins/week). Mean resting HR showed a decrease by 5 beats by the end of the 6 weeks of VR exercise and 8 in the non-VR group. There was no difference in terms of recovery and postoperative complications.

Conclusion:

VR can improve the adherence and compliance to exercises when compared to standard physical activity advice alone. This was recorded as being mainly due to the availability of using the devices at home and easy to use and interesting fun applications. However, further validation studies into exercises programs on VR within this group would needed.

P-027

CASE REPORT: INTRAGASTRIC BALLOON ON A PATIENT WITH SLEEVE GASTRECTOMY

Post-operative complications

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Introduction:

Intragastric balloon (IGB) is an endoscopic method for weight loss in obesity patients. Some common side effects of balloon implantation are abdominal pain in the first week after placement, nausea and vomiting. The insertion of such an intragastric balloon could have some serious complications

Objectives:

We present a case of a patient who underwent an insertion of an intragastric balloon nine years after a sleeve gastrectomy and the following complications.

Methods:

An intragastric balloon was inserted in a 60-year-old patient with weight rebound nine years after a Sleeve gastrectomy. Eighteen days after the insertion, the patient was presented in our emergency department with an acute abdomen. We could remove the intragastric balloon endoscopically and treat her initially conservatively despite visible ulcerations of the stomach wall. Few weeks later a redo surgery was required because of stenosis at the angular incisure

Results:

The patient is doing well four months after redo surgery with sufficient weight loss and no problems.

Conclusion:

The insertion of an intragastric balloon in patients with previous gastric surgery should be strictly evaluated and when done, then only in bariatric centers.

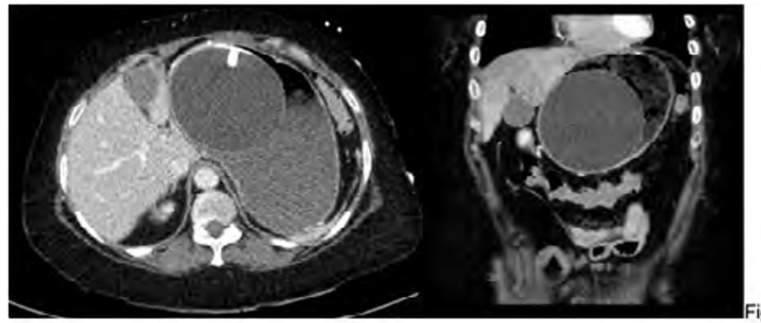

Fig. 1

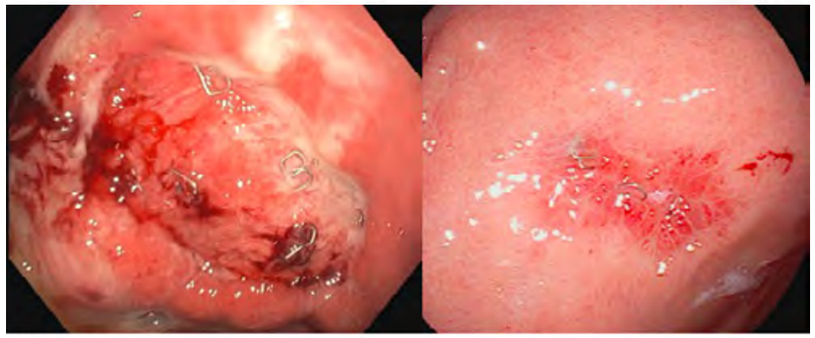

Fig. 2

P-028

CASE SERIES: PORTOMESENTERIC VENOUS THROMBOSIS COMPLICATING LAPAROSCOPIC BARIATRIC PROCEDURES

Endoscopic and percutaneous interventional procedures

A. Abualsel.

Bariatric and General Surgery, King Hamad University Hospital, Muharraq, Bahrain.

In this presentation I will explore the most dangerous complications but fortunately it is rare, which is portomesenteric thrombosis after Bariatric surgery.

P-029

CHANGES IN EATING HABITS, MENTAL HEALTH, PHYSICAL ACTIVITY PATTERNS AND WEIGHT STATUS DURING COVID-19 CONFINEMENT IN THE CHILEAN ADULT POPULATION

Integrated health

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[1]Department of Nutrition and Bariatric Surgery, Clinica Las Condes, Las Condes, Chile; [2]Clinica Las Condes, Santiago, Chile; [3]Clinica Indisa, Santiago, Chile; 4Clinica Ciudad del Mar, Santiago, Chile; [5]Past President, IFSO Chile, Las Condes, Chile.

The impact of pandemic due to Sars-Cov2 has caused profound changes in people's lifestyle and habits. Prolonged house confinements have showed to control virus spread but have affected access to healthy eating, physical activity and mental health. The evidence shows that stressful situations are associated with health treatments abandonment and reduction in self-care behaviours.

Objectives:

To evaluate the impact of COVID-19 confinement on eating patterns, physical activity and mental health, and its association on weight status in the Chilean adult population.

Methods:

Sociodemographic variables, changes in frequency of consumption and type of food, perception of quality of life and physical activity were consulted through an online survey distributed by email and social networks, between August 2020 and March 2021. Descriptive statistics and chi2 test were used to compare categorical variables and logistic regression to analyze variables related to weight gain.

Results:

4228 subjects answered the survey; 76.7% were female; 39,9% were between 36 and 50 years old, 42% were working remotely,47.4% declared feeling anxious and 80% declared to have had sleeping disorders. 63% declared gaining weight. This was associated with female sex, remote work, live alone and less physical activity ($p<0.0001$). There was an inverse correlation between a higher educational level and weight gain ($p<0.0001$). In the multivariate analysis, there was a very significant (strong) association between weight gain and low educational level, less physical activity, female sex, declaring being with anxiety, increase in processed food intake, augmented food quantities and bad sleeping. People who declared cooking healthy food had 3 times less chance to gain weight.

Conclusion:

Confinement impacts on the capacity for self-care and the maintenance of healthy habits, and consequently on weight gain. More studies are needed on this topic to analyse and confirm these preliminary results in order to develop public health policies to promote a healthier lifestyle, especially during pandemic.

P-030

CHRONIC ABDOMINAL PAIN AFTER GASTRIC BYPASS.

Endoscopic and percutaneous interventional procedures

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Introduction:

A great part of the population worldwide underwent or will benefit from a gastric bypass (GBP). It is estimated that up to 30% of those people will report chronic abdominal pain.

The main difficulty is to compare some symptoms to the general population and assess what is allegedly directly related to gastric bypass surgery.

Method:

We reviewed all the related literature of the last 20 years and collected the data available.

Results:

Visceral pain has some particular patterns of presentation way different from pain in other locations of the body. Stenosis, reflux, ulcers, internal hernias and adhesions are well known causes but we mainly focused on some less known entities but of major concern in some cases, all potentially related to gastric bypass.

Our meticulous work led us to the conclusions that after gastric bypass surgery and bariatric surgery in general, a lot of abdominal different pains can occur.

It is often difficult to establish a direct link between the procedure and the symptoms. A lot of diagnostic methods exist, the anatomical modifications due to GBP surgery make some -like endoscopies- more difficult to perform. Laparoscopy can be an important diagnostic and management approach, sometimes the only diagnostic procedure.

Conclusions:

We should warn our patients about those tedious potential situations and surgeons should report all those situations.

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P-031

CIRURGIA BARIÁTRICA E RECIDIVA DA OBESIDADE EM MULHERES: ESTUDO DA DINÂMICA FAMILIAR

Behavioral, psycho-social and environmental predictors of bariatric surgery outcomes

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Introdução:

Pesquisas mostram que o número de pessoas obesas no Brasil é de 20,8% e chega a 36,9% em todo o mundo. A recidiva da obesidade atinge cerca de 7 a 50% dos pacientes submetidos à cirurgia bariátrica. De acordo com a perspectiva da Psicologia Sistêmica,há influências mútuas entre o indivíduo e a sua família, sendo esse sistema um contexto de saúde e também de adoecimento dos seus membros. Assim,entende-se que a família pode ter influência no surgimento,bem como na prevenção e tratamento de várias doenças.

Objetivo:

O presente estudo teve como objetivo principal: compreender como a dinâmica familiar de mulheres adultas submetidas à cirurgia bariátrica pode influenciar ou não na recidiva da obesidade pós cirurgia. Os objetivos específicos foram identificar aspectos da estrutura familiar,como as regras de relacionamento, tipos de fronteiras e comunicação entre seus membros;Identificar possíveis influências de outros sistemas sociais (igreja,escola,trabalho,serviços de saúde) no reganho ou não de peso pelas mulheres após a cirurgia bariátrica; entre outros.

Métodos:

Privilegiou-se a metodologia qualitativa por meio do estudo de caso. Participaram da pesquisa duas famílias com mulheres adultas que foram submetidas à cirurgia bariátrica;uma das participantes apresentou reganho de peso acima de 10% em relação ao peso mínimo alcançado após a cirurgia bariátrica, enquanto a outra não. Foram realizados dois encontros com cada família, utilizando um roteiro de entrevista semiestruturado e a construção do genograma familiar. Os dados foram analisados de acordo com o método construtivo interpretativo, e discutidas com base na abordagem sistêmica da família.

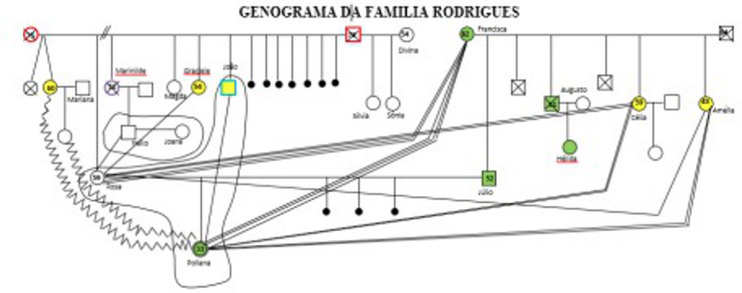
Resultados:

Os resultados mostraram que na família da paciente que apresentou significativo reganho de peso as fronteiras e regras familiares são difusas e há dificuldades na diferenciação em relação à família extensa,e existe ambiguidade na compreensão das regras;na família da paciente que não teve reganho de peso existem regras claras de relacionamento e definição dos papéis de seus membros;em ambos os casos observamos o aspecto da multifatorialidade da obesidade,pois além dos fatores genéticos, características da dinâmica familiar podem ter contribuído nos dois casos; a adesão ao tratamento e o apoio familiar e social contribuíram para o quadro atual dos casos estudados.

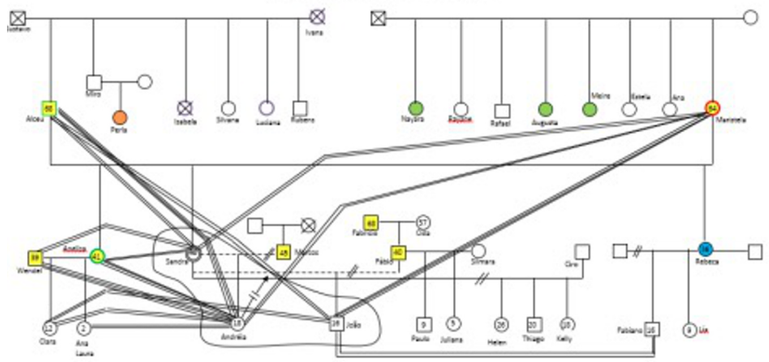
Conclusão:

Os dados apresentados reforçam a importância da inclusão da família e da rede de apoio social na prevenção, tratamento e acompanhamento de pacientes obesos antes e após a cirurgia bariátrica.

GENOGRAMA DA FAMILIA RODRIGUES



GENOGRAMA DA FAMILIA CHAGAS



LEGENDA GENOGRAMA

P-032

CIRURGIA BARIÁTRICA REVISIONAL E SUAS INDICAÇÕES - UM ESTUDO RETROSPECTIVO

Cirurgia revisional

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Introdução:

A obesidade é um dos maiores problemas de saúde pública, com aumento progressivo. Devido a correlação com comorbidades e a melhora expressiva destas após cirurgias bariátricas (CB), sua realização vem sendo cada vez mais aceita e com resultados significativos, embora alguns pacientes necessitam da realização de cirurgia bariátrica revisional (CBR). A incidência de CBR após o bypass gástrico em y de roux (BGYR) e gastroplastia vertical (GV) é de 4,9 e 9,8% respectivamente. As etiologias mais comuns são o reganho de peso, o refluxo gastroesofágico (RGE) e desnutrição. Com a ascensão das CB, observamos o aumento de complicações tardias e a necessidade de estudo sobre CBR e suas indicações.

Objetivo:

O objetivo deste artigo é analisar os fatores causais que levaram a realização de CBR em um serviço especializado, permitindo descrever a experiência institucional associada a uma revisão sistemática da literatura sobre o tema.

Método:

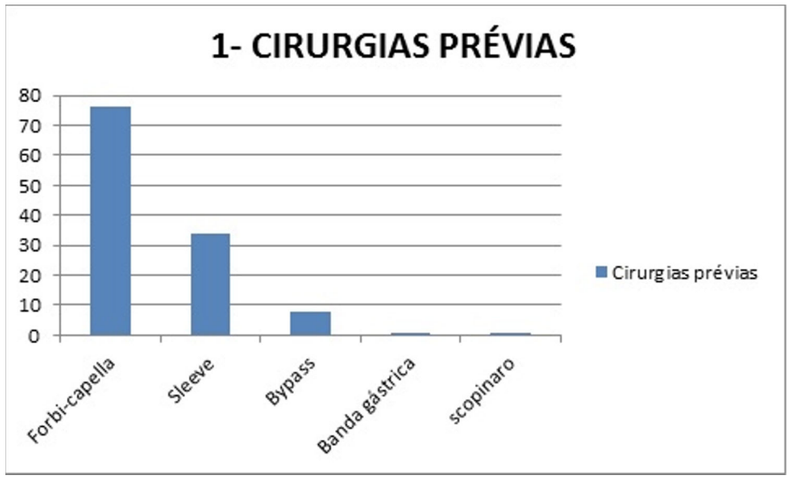
Foi realizado um estudo retrospectivo de todos os pacientes submetidos à CB pela equipe composta por cirurgiões membros da Sociedade Brasileira de Cirurgia Bariátrica e Metabólica, entre 2019 e 2021.

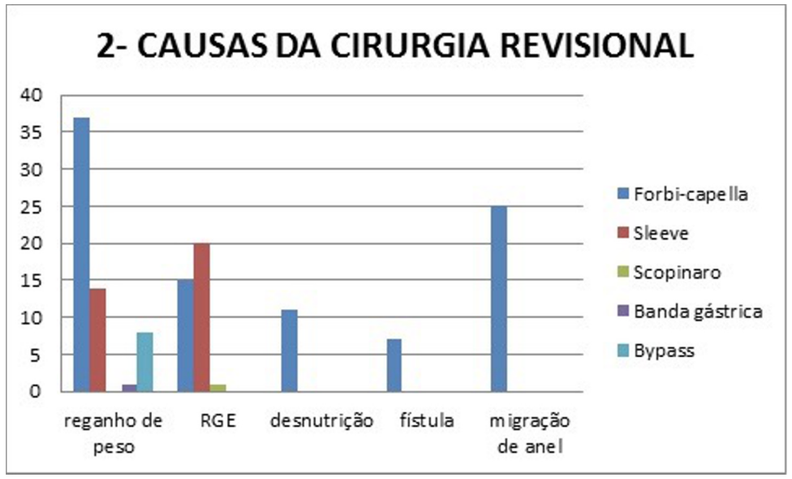
Resultados:

Foram contabilizadas 2187 CB. Destas, 2019 BGYR (92,31%), 48 GV (2,19%) e 120 CBR (5,48%). Dentre estas, a faixa etária foi dos 22 a 70 anos (média de 43,9 anos), sendo 84,16% mulheres, e 15,83% homens. As CBR tiveram como cirurgia prévia: Fobi-Capella (FC) (63,33%), GV (28,33%), BGYR (6,66%), Scopinaro (0,83%), banda gástrica (10,83%), sendo todas convertidas em BGYR (gráfico 1). O reganho de peso representou metade dos fatores causais (50%); RGE (30%); migração do anel da cirurgia de FC (20,83%); desnutrição protéico-calórica (9,16%); e fístula entre estômago excluso e pouch gástrico (5,83%) (gráfico 2). É digno de nota o fato que grande número de CBR teve fator causal concomitante

Conclusão:

A indicação mais prevalente de CBR foi o reganho de peso com 50% dos casos, seguido do RGE com 30%, sendo que estes apresentaram sobreposição em alguns casos. Dos procedimentos realizados, a maioria foi composta da conversão da FC em BGYR, com 63,33%. Portanto, concluímos a importância do acompanhamento multidisciplinar no pós-operatório do paciente, com controle da perda ponderal e sua manutenção, além da superioridade dos atuais procedimentos (BGYR) em comparação com a cirurgia aberta, com menos complicações tardias e necessidade de CB.





P-033

CLINICAL CHARACTERS AND PROBLEMS OF TYPE 2 DIABETES NON-REMISSION STATUS AFTER SLEEVE GASTRECTOMY WITH DUODENAL-JEJUNAL BYPASS: A SINGLE CENTER STUDY

Type 2 diabetes and metabolic surgery

H. Imoto, N. Tanaka, T. Tsuchiya, A. Yamamura, F. Saijo, S. Ohnuma, T. Kamei, M. Unno.

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Background:

Laparoscopic sleeve gastrectomy with duodenal-jejunal bypass (LSG/DJB) is reported to have great weight loss and diabetes improvement effect. It is attracting attention as one of the procedures of 'metabolic surgery'. However, there are cases in which the effect is insufficient or relapse of diabetes.

Objectives:

The aim of this study was to consider the clinical characteristics and problems of non-remission cases of diabetes who underwent LSG/DJB at our hospital.

Methods:

We retrospectively examined 12 patients who underwent LSG/DJB over a year ago at our hospital. In this study, the remission includes complete remission with HbA1C ≤ 6.0 and partial remission with HbA1C≤6.5 without any use of anti-diabetic drugs.

Results:

Diabetes remission was achieved in 4 cases (66%). The following items are shown as non-remission: remission cases (median value). The observation period was 6.1: 5.4 years, and there was no difference in age, gender, preoperative BMI, and preoperative period. Fasting blood glucose at the first visit was 200: 122 mg / dL, and HbA1C was 9.5: 8.5%, which tended to be high in non-remission cases. On the other hand, the blood insulin level was 9.7: 12.7 mg / dL, which was low in non-remission cases, and all of non-remission cases were high-dose insulin users (median 93 units / day). The ABCD score was 5: 5, showing no difference. The preoperative weight loss was 2.4: 7.7 kg, which was insufficient in non-remission cases. Relapse of diabetes after remission occurred in 3 cases, and the time to relapse was 1, 2, and 3 years, respectively, and weight regain occurred in all relapse cases.

Conclusion:

Poor perioperative glycemic control, low blood insulin levels, high-dose insulin use, and inadequate preoperative weight loss would be risks of non-remission of diabetes after LSG/DJB. In addition, weight regain is associated with relapse of diabetes, thus, the continuous management after surgery is important. For further examination, accumulation of the number of cases and long-term results are needed.

P-034

COMORBILIDADES Y CIRUGÍA BARIÁTRICA: DESCRIPCIÓN DE LAS COMORBILIDADES EN PACIENTES CHILENOS QUE SERÁN SOMETIDOS A MANGA GÁSTRICA EN EQUIPO MULTIDISCIPLINARIO CLC

Integrated health

M. Escaffi[1], M. Mackenna[1], J. Vega[2], D. Troncoso[1], E. Forero[2], M. Ramirez[3].

[1]Clínica las Condes, Santiago, Chile; [2]Internal Medicine, Clínica Aurea, Santiago, Chile; [3]Psychology, Clínica Aurea, Santiago, Chile.

Introduccións:

Se realizará un estudio observacional analítico de una cohorte histórica de pacientes operados en Clínica las Condes de Gastrectomía en Manga Laparoscópica, evaluados a los 12 meses posteriores a la cirugía y que cuente con al menos 3 controles del equipo multidisciplinario durante el periodo comprendido entre el 01 enero del 2015 hasta el 30 de septiembre del 2018.

Objetivos:

descripción de las comorbilidades de los pacientes portadores de obesidad que serán sometidos a Manga gástrica en el centro de nutrición y cirugía bariatrica CLC, para caracterizar el perfil de los pacientes que serán sometidos a una cirugía metabólica

Método:

Estudio Observacional Analítico Retrospectivo

Resultados:

La descripción de la frecuencia de distintas enfermedades en una población que será sometida a cirugía bariatrica y que es evaluada por un equipo multidisciplinario nos permite caracterizar adecuadamente a la población portadora de obesidad en Chile.

Conclusión:

Los pacientes portadores de Obesidad se caracterizan por presentar una frecuencia aumentada de diversas patologías, donde las más reportadas son las enfermedades metabólicas asociadas a la Obesidad. Caracterizar la frecuencia de estas enfermedades en población latina, específicamente chilena, nos permite entender mejor el perfil de los pacientes portadores de obesidad que requieren llegar a una cirugía Bariatrica.

P-035

COMPARATIVE EARLY OUTCOMES OF BILIOPANCREATIC DIVERSION AND SLEEVE GASTRECTOMY IN TERMS OF WEIGHT AND BMI LOSS

Sleeve gastrectomy

A. Bueno Cañones, M. Bailon Cuadrado, D. Pacheco Sánchez, P. Pinto Fuentes, F. Tejero-Pintor, E. Asensio Díaz, E. Choolani Bhojwani, F. Acebes García, P. Marcos Santos, S. Veleda Belanche.

Hospital Universitario Rio Hortega, Valladolid, Spain.

Introduction:

Obesity is a highly prevalent disease throughout the world. Bariatric surgery aims to help these patients to lose their weight excess. This may be obtained with different techniques, such as biliopancreatic diversion and sleeve gastrectomy. Percentage of excess weight loss and percentage of excess body mass index loss are some of the main goals of bariatric procedures.

Objective:

Our study compares sleeve gastrectomy (SG) and biliopancreatic diversion (BPD), analyzing weight and body mass index loss one year after the intervention.

Methods:

We compared results obtained one year after the intervention, in terms of percentage of excess weight loss (%EWL) and percentage of excess body mass index loss (%EBMIL).

Results:

One hundred sixty-one patients were analyzed. Patients undergoing BPD obtained less %EWL (63.20% vs 70.27%, p=0.035) and less %EBMIL (62.78% vs 69.69%, p=0.046), one year after the procedure, compared to those who underwent SG. Both groups were similar in terms of initial weight and BMI.

Conclusion:

SG seems, in our sample of patients, to obtain significatively better results than BPD in terms of weight and body mass index loss.

RELEVANT VARIABLES – BPD vs SG			
Initial weight	BPD	121.22 Kg	p = 0.201
	SG	126.22 Kg	
Initial BMI	BPD	45.40 Kg/m2	p = 0.255
	SG	46.65 Kg/m2	
Weight at 12 months	BPD	86.90 Kg	p = 0.743
	SG	85.92 Kg	
BMI at 12 moths	BPD	32.70 Kg/m2	p = 0.293
	SG	31.76 Kg/m2	
%EWL	BPD	63.20%	p = 0.035
	SG	70.27%	
%EBMIL	BPD	62.78%	p = 0.046
	SG	69.69%	

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P-036

COMPARISON OF EFFECTIVENESS BETWEEN ROUX-EN-Y BYPASS WITH LONG BILIOPANCREATIC BOWEL VS SHORT BILIOPANCREATIC BOWEL

Hypo-absorptive procedures

J. Jimenez.

Ciru Bari, Zapopan, Mexico.

Introduction:

The most common cause of gastric bypass revision is poor weight loss due to insufficient malabsorption due to a long common canal. The shortening of the common channel is used at the expense of the increase of the biliopancreatic intestine or the alimentary intestine. Studies reflect the best results after lengthening of the biliopancreatic intestine. Therefore, gastric bypass with the short common channel and long biliopancreatic intestine has been chosen for the first time, to avoid the incidence of revision surgery.

Objectives:

Analyze the evolution in weight loss and improvement of comorbidities in Bypass with short alimentary intestine and long biliopancreatic compared to Bypass with long alimentary intestine and short biliopancreatic, with the same length of common channel.

Methods:

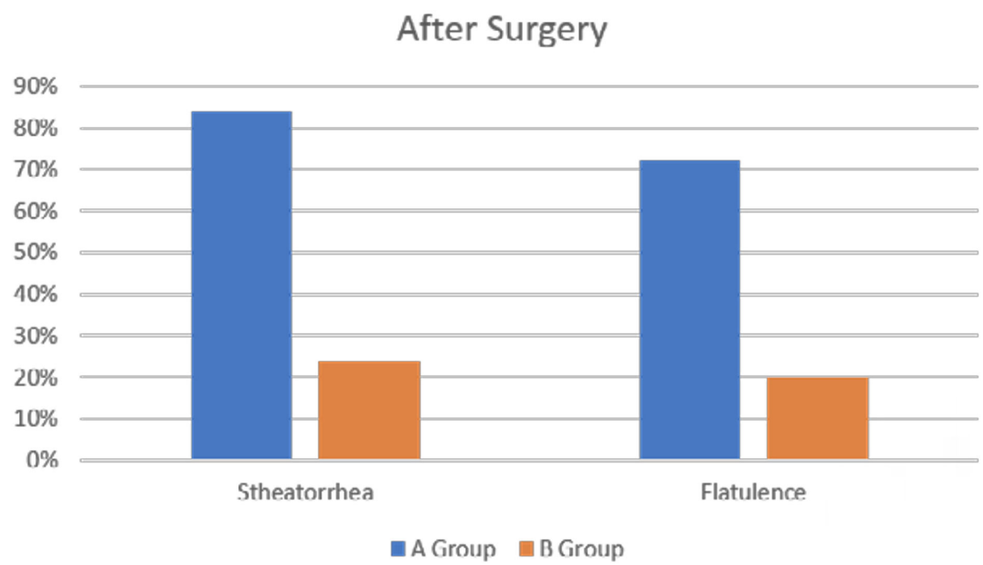
Two groups each of 25 patients were studied, who underwent Roux-en-Y Gastric Bypass, between January 2017 to January 2020. Group A, 18(72%) women, 7(28%) men, average age 38.96 years, BMI 46.08kg/m2; Group B, 19(76%) women, 6(24%) men, mean age 41.36; BMI 47.28kg / m2. All with type 2 diabetes Mellitus, operated by the same Surgery and followed up for 9 months after surgery under the same type diet, supplementation and exercise protocol. All of them were measured for the length of the small intestine and all of them had 3 meters of common channel; of the remaining length for Group A, it was decided to establish 62% for the biliopancreatic intestine and 38% for the alimentary intestine. In group B, 22% of the biliopancreatic intestine and 77% of the alimentary intestine. The percentage of weight loss between both groups, glycated hemoglobin, incidence of morbidity and complications between both groups was compared.

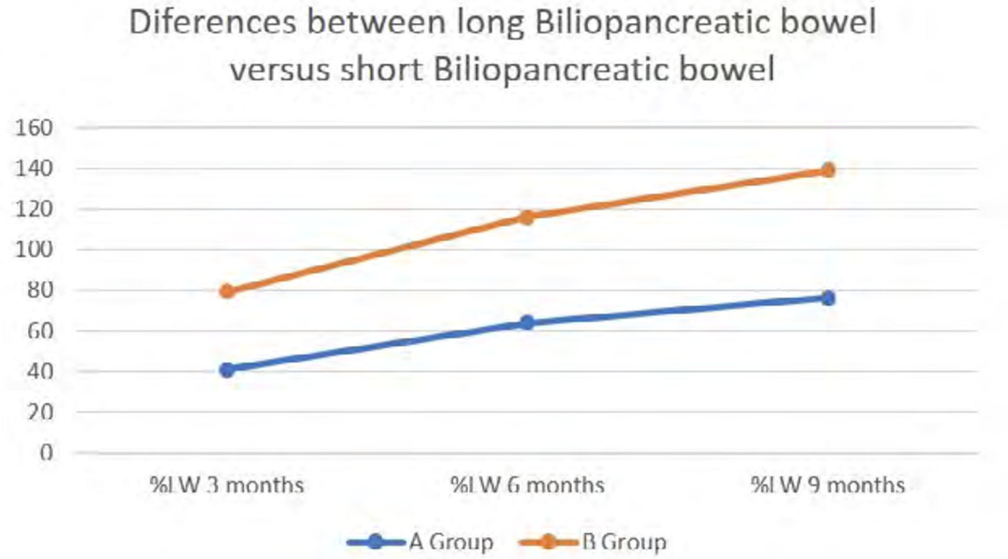
Results:

In group A, 41% loss of excess weight was achieved at 3 months, in B 38%; Group A, at 6 months of 64%, group B 52%, at 9 months Group A 76%, group B 63%. Glycated hemoglobin in group A decreased by 3.24% at 3 months, against 1.8% in group B; at 6 months, group A was already at a normal level, while in group B the average was 7.1%, managing to normalize until the 9-month control. In group A, 84% for the third month presented steatorrhea against 24% of group B. In group A, 72% presented flatulence in the third month that they referred to as important, against 20% of group B. There were no differences between the percentage of complications in both groups. There were no deaths in any group.

Conclusions:

Group A presented a higher





P-037

"COVESITY": THE IMPACT OF SARS-COV-2 PANDEMIC ON SIX-MONTH WEIGHT TRAJECTORIES OF PATIENTS WHO UNDERWENT ENDOSCOPIC SLEEVE GASTROPLASTY IN A FOUR-YEAR PERIOD 2018-2021

Integrated health

G. Carlino[1], M. De Siena[2], V. Bove[2], M. Matteo[2], V. Pontecorvi[2], C. Massari[2], G. Giannetti[2], G. Costamagna[2], I. Boškoski[2].

[1]Gastroenterology, Università degli studi dell'Aquila, L'Aquila, Italy; [2]Digestive Endoscopy Unit, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy.

Background:

The Sars-Cov-2 pandemic has probably changed our lifestyle: on the one hand it may have favoured a sedentary life due to the lockdowns but on the other hand long stays at home may have led to physical activity and healthier nutrition.

To evaluate the effects of the pandemic on weight indices, a retrospective analysis on a prospective database of patients undergoing Endoscopic Sleeve Gastroplasty (ESG) from 2018 and October 2021 was conducted, excluding patients enrolled in clinical trials to avoid selection bias. For each year age, sex and weight indices were collected at baseline and after 1-,3- and 6-months follow-up. Statistical comparisons were performed with the ANOVA test.

Methods:

In the four-year period 2018-21 forty-four (61% women), seventy-nine (70% women), one hundred and two (74% women) and seventy-five patients (80% women) underwent ESG in 2018,2019,2020 and 2021, respectively.

Results:

At baseline there were no significant differences in mean age, while all weight indices showed a decreasing trend from 2018 to 2020 and an increase in 2021 (figure 1).

At the 1-,3- and 6-months follow-up patients' compliances were 100%,98%,95% in the 2018, 100%,99%,97% in the 2019, 97%,91%,77% in the 2020 and 94%,65% and 20% in the 2021.

One month after ESG Excess Weight Lost (EWL), Total Body Weight Lost (TBWL) and the variation of Body Mass Index (ΔBMI) were sensibly higher in the 2020. At the 3-month follow EWL and TBWL were sensibly higher in the 2020 whereas BAROS score was higher in the 2021. After six-month EWL, TBWL and BAROS score were higher in the 2020. All data are summarized in figure 2.

Conclusion:

Our analysis conducted on data from 2018 to October 2021 showed on the one hand how the pandemic interrupted the downward trend (2018-2020) of the weight indices, while on the other it observed better weight loss outcomes in 2020 compared with 2018,2019 and 2021. These results suggest that maybe obese patients underwent ESG during the pandemic period had better control of their diet and lifestyle, perhaps due to the fear of gaining weight during closure. However, our analysis is limited by lower compliance rates in 2021 because not all the patients have reached the follow-up visit and, certainly, more studies will be needed to evaluate the long-term pandemic effects on the already known obesity epidemic.

Figure 1.Main characteristics of patients who underwent Endoscopic Sleeve Gastroplasty in the four-year period 2018-2021. All data are reported as absolute value or as main value (standard deviation). Abbreviations: BMI= Body Mass Index; EW= Excess Weight; EBMI: Excess Body Mass Index.

Year	N. Patients (% women)	Age (year)	Weight (kg)	BMI (kg/m²)	EW (kg)	EBMI (kg/m²)
2018	44 (61%)	46,0 (12,7)	114,1 (21,7)	40,4 (6,1)	43,6 (18,8)	15,4 (6,1)
2019	79 (70%)	45,3 (13,2)	108,6 (19,9)	38,9 (5,6)	38,7 (16,2)	13,9 (5,6)
2020	102 (74%)	43,7 (11,4)	102,6 (16,8)	37,1 (4,3)	33,5 (12,9)	12,1 (4,3)
2021	75 (77%)	48,3 (17,3)	104,7 (18,9)	38,1 (5,4)	36,1 (15,9)	13,1 (5,5)
p		**0,712**	**0,004**	**0,003**	**0,002**	**0,003**

Figure 2. Weight loss outcomes at one-(1m), three- (3m) and six-months (6m) post-operative follow-up in the four-year period 2018-2021. All data are reported as mean value (standard deviation). Abbreviations: WL = Weight Lost; EWL = Excess weight lost; TBWL = Total body weight lost; BMI = Body Mass Index; Δ BMI = Change in Body Mass Index; EBMIL = Excess Body Mass Index lost.

Year	1m WL (kg)	1m EWL (%)	1m TBWL (%)	1m BMI (kg/m²)	Δ BMI 1m (kg/m²)	1m BAROS
2018	10,4 (3,9)	26,6 (12,8)	9,1 (3,2)	36,8 (6,0)	3,6 (1,2)	2,9 (1,5)
2019	11,9 (4,8)	32,8 (12,4)	10,9 (3,6)	34,6 (4,8)	4,4 (1,8)	3,2 (1,6)
2020	12,15 (4,15)	37,9 (13,5)	11,7 (3,5)	33,0 (4,1)	4,4 (1,5)	2,9 (1,1)
2021	11,9 (4,8)	37,4 (17,3)	11,6 (4,6)	33,8 (5,5)	4,4 (1,8)	3,4 (1,4)
p	0,157	**<0,01**	**0,001**	**0,001**	**0,041**	0,112
Year	**3m WL (kg)**	**3m EWL (%)**	**3m TBWL (%)**	**3m BMI (kg/m²)**	**Δ BMI 3m (kg/m²)**	**3 m BAROS**
2018	15,7 (5,3)	40,0 (16,8)	13,8 (4,1)	34,7 (5,7)	5,5 (1,7)	2,5 (1,2)
2019	16,4 (7,8)	44,6 (17,2)	14,9 (5,4)	33,0 (4,5)	6,0 (2,8)	3,2 (1,6)
2020	17,5 (7,0)	53,0 (18,3)	16,6 (5,3)	31,0 (3,6)	6,2 (2,4)	2,9 (1,1)
2021	17,0 (6,5)	51,6 (19,2)	15,7 (4,4)	32,1 (5,2)	6,2 (2,4)	3,4 (1,2)
p	0,482	**<0,01**	**0,013**	**<0,01**	0,358	**<0,01**
Year	**6m WL (kg)**	**6m EWL (%)**	**6m TBWL (%)**	**6m BMI (kg/m²)**	**Δ BMI 6m (kg/m²)**	**6m BAROS**
2018	19,4 (6,9)	48,2 (19,3)	17,0 (5,3)	33,6 (5,6)	7,0 (2,3)	4,7 (1,5)
2019	18,1 (8,2)	49,5 (21,2)	16,6 (6,6)	32,3 (4,7)	6,6 (3,0)	3,8 (1,9)
2020	19,8 (8,2)	57,9 (19,7)	18,7 (6,2)	30,1 (3,6)	7,1 (2,8)	4,15 (1,6)
2021	14,9 (9,6)	41,5 (32,2)	12,9 (8,0)	36,4 (8,02)	5,6 (3,5)	2,8 (2,0)
p	0,176	**0,009**	**0,015**	**<0,01**	0,322	**0,003**

P-038

DESCRIBING THE BEHAVIORS, PERCEPTION, AND AWARENESS OF BARIATRIC SURGERY AMONG PRIMARY CARE PHYSICIANS IN KUWAIT

Integrated health

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Background:

Obesity is a growing issue globally and bariatric surgery is increasingly being utilized to treat it. The prevalence of obesity in Kuwait is already high compared with global comparisons and increasing. The current study sought to describe the knowledge, attitudes, and behaviours of physicians in Kuwait towards obesity and the use of bariatric surgery within their patient populations.

Methods:

Questionnaires were distributed to physicians across Kuwait. Responses were recorded online via Survey Monkey. The self-administered questionnaire collected data about demographic factors, knowledge of bariatric surgery, practices related to the collection of measurements related to weight and height, and attitudes towards bariatric surgery and obesity among patients.

Results:

A total of 118 surveys were returned. A minority of respondents (34%) supported the use of bariatric surgery, despite 51% having referred a patient for such a procedure. In terms of behaviours related to overweight and obesity, most respondents regularly took patients weight and height, calculated BMI, and initiated conversations about obesity when they felt they were required. Knowledge related to the morbidity and mortality experienced by those undergoing bariatric surgery was low. Among those who responded to questions related to their knowledge of mortality related to bariatric surgery, over half did not know the 30-day mortality associated with any of the procedures included within the questions.

Conclusion:

Among our sample of physicians, we report a low level of support for bariatric surgery, as well as low levels of knowledge of the risks and consequences of the procedures. At the same time, while we found low levels of support for this type of surgery, over half had referred a patient for it. As obesity continues to be a key issue of public health concern, globally and within Kuwait, physician and patient education and awareness of the appropriate treatment options available becomes increasingly important.

P-039

DESCRIPCIÓN DEL PERFIL DE PACIENTES SOMETIDOS A UNA GASTRECTOMÍA EN MANGA LAPAROSCÓPICA CON UNA ADECUADA ADHERENCIA A LOS CONTROLES POSTERIORES A UN AÑO POR UN EQUIPO MULTIDISCIPLINARIO

Integrated health

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Se realizará un estudio observacional analítico de una cohorte histórica de pacientes operados en Clínica las Condes de Gastrectomía en Manga Laparoscópica, evaluados a los 12 meses posteriores a la cirugía y que cuente con al menos 3 controles del equipo multidisciplinario durante el periodo comprendido entre el 01 enero del 2015 hasta el 30 de septiembre del 2018.

Objetivos:

Definir si el sexo, edad o IMC son características determinantes al grado de adherencia al tratamiento y controles posteriores a una cirugía de manga gástrica de los pacientes portadores de obesidad en el centro de nutrición y cirugía bariatrica de Clínica las Condes.

Método:

Estudio Observacional Analítico Retrospectivo

Resultados:

Los pacientes sometidos a cirugía bariátrica durante el primer año, que lograron mayor adherencia a los controles son mujeres de edad entre 35 a 50 años con IMC mayor al promedio de esta muestra, esta información nos permite remarcar la importancia de los controles posteriores en los pacientes que no cumple con las características anteriormente señaladas.

Conclusión:

La adherencia a controles en todo tratamiento médico quirúrgico es fundamental para lograr los objetivos terapéuticos. En los pacientes portadores de obesidad esta necesidad es mayor ya que esta patología es multifactorial y de tratamiento multidisciplinario. Los pacientes sometidos a cirugía bariatrica con mayor adherencia a controles tiene mejores resultados, esta información permite saber a qué pacientes se debe remarcar la importancia de los controles posteriores.

P-040

DISEASE-RELATED FACTORS THAT CONFER RESISTANCE TO SURGICAL WEIGHT LOSS MAY EXPLAIN REDUCED WEIGHT LOSS EFFICACY OF REVISIONAL BARIATRIC SURGERY

Revisional surgery

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Background:

Previous studies suggest that revisional bariatric surgery (RBS) is associated with lower weight loss compared to primary bariatric surgery (PBS). It is unclear, however, if the lower efficacy of RBS depends on differences in surgical anatomy or disease-related factors that confer relative resistance to surgical weight loss.

Objective:

The objective of this study was to compare the weight loss outcomes of RBS and PBS. A specific aim of the study was to investigate whether the weight loss potency of revisional surgery may be influenced by disease stage/severity at baseline.

Methods:

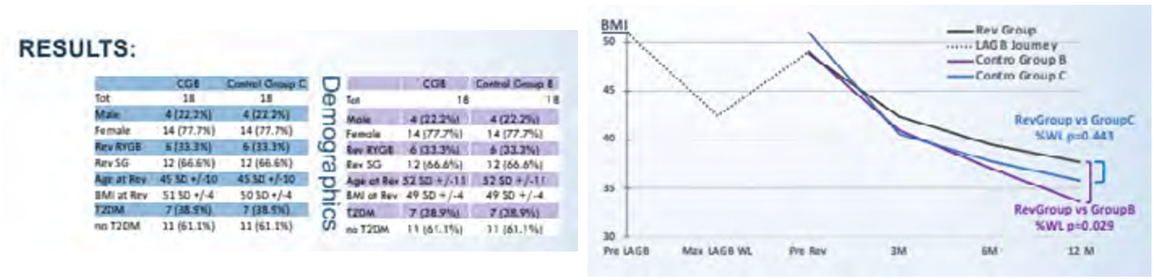
This is a retrospective review based on a database of 600 consecutive bariatric procedures from a single surgeon's practice. For this analysis, we analysed only revisional procedures performed as conversion from gastric banding to either sleeve gastrectomy or R-Y gastric bypass in patients with inadequate weight loss and with at least one year follow up. Percent weight loss (%WL) at one year after RBS was compared with the one-year %WL in all patients who underwent PBS (Control group A). In a further, analysis, weight loss outcomes were compared between patients who underwent RBS and two matched control groups of equivalent sample size and type of procedures: one group (Control group B) was matched by age, gender, BMI, diabetes status at the time of revisional surgery; a second control group (Control group C) was matched for the same parameters at the time of the original procedure. Independent-Samples Mann-Whitney Test (SPSS® version 26) was used for statistical analysis.

Results:

A total of 417 patients were included in the analysis, of which 384 underwent PBS and 33 had revisional surgery for inadequate weight loss. Patients who underwent RBS experienced significantly lower weight loss compared to patients in Control group A and Control Group B. Specifically, 1-year %WL was 22.8+10.8% for RBS, vs 27.1+ 8.3% for Control Group A ($p<0.001$) and 30.7+10.4% for Control group B ($p=0.029$). There were no differences in weight loss between patients who underwent revisional surgery and patients who underwent PBS if these were matched for clinical characteristics at the time of the original operation (%WL= 28.5(+/-10.9) %WL vs 26.1(+/-11) %WL, $p=0.443$).

Conclusion:

Our data suggest that the observed lower weight loss efficacy of RBS may reflect disease-related factors that confer resistance to surgical weight loss. Larger studies are needed to confirm these finding.



P-041

DOES ASTHMA INFLUENCE WEIGHT LOSS AFTER BARIATRIC SURGERY?

Perioperative management

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Does asthma influence weight loss after bariatric surgery?

Background:

Bariatric surgery is the gold-standard treatment for morbid obesity. The surgery is considered successful if 50% of the excess body weight (EBWL) is lost. Asthma is more common in obese and may impair physical activity and energy expenditure in the postoperative period.

Objective:

Many factors influence the bariatric surgery results. This study aims to verify if asthma impairs EBWL, which is not previously reported.

Methods:

This was a prospective cohort. Patients who underwent bariatric surgery in a tertiary hospital were included and followed for two years. The diagnosis of asthma was based on previous spirometry results. Results. A total of 262 individuals was included, of which 38 had asthma. Comparing patients with and without asthma the mean age, 52.6 (11.2) and 49.3 (10.83) and sex rate, 94.7% and 84.8%, was similar ($p=0.4$ and 0.3), but there was a small difference in the mean preoperative weight, 137.66 (25.05) and 128.85 (22.9) kilograms, $p=0.03$. In Generalized Estimating Equations (GEE) analysis, asthma negatively impact the EBWL in 6, 12 and 24 months. However, when adjusted for preoperative weight, the results did not remain significant ($p=0.7$).

Conclusion:

The presence of asthma does not influence weight loss after bariatric surgery.

Period	EBWL % with asthma	EBWL % without asthma
6-month	50.9 (11)	56 (19.8)
12-months	68.2 (12.5)	72.1 (17)
24-months	73.9 (15.7)	77.9 (12.2)

Table. EBWL in patients with and without asthma.

* P-value <0.003, Generalized Estimating Equations (GEE) analysis.

P-042

DUMPING-LIKE SYMPTOMS AFTER ROUX-EN-Y GASTRIC BYPASS: CASE REPORT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Insulinomas are the most common neuroendocrine tumors of the pancreas, they are rarely suspected as a cause of hyperinsulinemia in morbidly obese patients because these patients have hyperinsulinemia as a result of insulin resistance. One of the complications of LRYGB is dumping syndrome. The pathophysiology of this hypoglycemia after LRYGB is not well understood, and many theories have been proposed such as excessive GLP-1, nesidioblastosis, and increased glucose effectiveness.

Case Presentation:

A 37-year-old female patient with a past history of LRYGB 6 years ago, diagnosed as having late dumping syndrome because of complaints of perspiration, palpitations, hunger, fatigue, aggression, and confusion not related to eating. After the failure of dietician counseling to treat her symptoms, biochemical tests were performed to investigate other possible causes of her symptoms such as hyperinsulinemia, Oral Glucose Tolerance Test demonstrated deep hypoglycemia after 90 min. MRI and endoscopic ultrasound were performed and demonstrated the presence of a well differentiated endocrine tumor of approximately 1.8 cm in diameter in the body of the pancreas.

Conclusion:

Bariatric surgeons should be aware of metabolic conditions including hypoglycemia, as a treatable cause of dumping-like symptoms.

P-043

EARLY COMPLICATIONS AFTER LSG WITH OVERSEWING OF THE STAPLER LINE: RESULTS FROM 1775 PATIENTS

Sleeve gastrectomy

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Background:

Staple line reinforcement in sleeve gastrectomy with oversewing is a one measure to reduce post-operative complications specially bleeding and for less extent leak.

Objective:

The effect of oversewing of the staple line in LSG on the early post-operative complications

Materials:

This is a retrospective review of all the patients who had undergone primary LSG whom all had oversewing of the staple line in last 10 year and were operated by the author.

Results:

1775 patients had primary LSG with over sewing of the staple line using 2/0 monofilament round needle of 26 Prolen by plicating the whole staple line. Age 37.8 yearsBMI 46.2 kg/m2.. There were 17 (0.9%) major complications, 4 (0.22%) leaks, 4 (0.22%) post-operative bleeding, 2 (0.11%) cases stenosis, 3 (0.17%) cases post-operative infected collection. There were 26 (1.5%) readmissions, 18 (1.0%) re-operations. There were only three patients who had transfusion but no patient needed massive transfusion. The average hospital stay for the patients who were readmitted 7, two patients needed to stay 32 and 35 days who had major sepsis and ICU admission. All the leaks have occurred at the upper part of the sleeved stomach, 3 at the stapler line and one posterior to the stapler line which is believed due to thermal injury. All leaks were treated by stenting and laparoscopic drainage of the collections except one case that was by laparotomy because of un-stability of the patient for laparoscopic procedure. 84 patients had been admitted to the ICU for monitoring. No operation was converted to open. There were 15 operations where there were stapling failure that was recognized during the operation and managed successfully except one case but the leak was at different site. There was no mortality in this series.

Conclusion:

The complication rates during and immediately post primary sleeve gastrectomy with over sewing of the stapler line are low making this approach is very feasible and safe in reducing the risks of bleeding and leak.

P-044

EATING BEHAVIOR OF BARIATRIC PATIENTS IN THE PRE AND POST SURGERY OF LAPAROSCOPIC Y ROUX GASTRIC BYPASS

Nutrition, eating behaviors before and after bariatric surgery

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Introduction:

Obesity is a chronic disease and is associated with excess body fat, which can trigger several pathologies, in addition to offering a greater risk of contracting COVID-19. In Brazil, the percentage of people with obesity in adulthood increased from 12.2% (between 2002 and 2003) to 26.8% (in 2019). Bariatric surgery (BS) is currently considered the most effective treatment for obesity. Eating behavior plays a decisive role in health, the practice of healthy eating being an essential element for the quality of life and health of individuals.

Objective:

To evaluate the eating behavior of patients in the pre- and post-surgery laparoscopic Y Roux Gastric Bypass (LRYGB).

Methods:

Prospective cohort study of 77 individuals with obesity from a private clinic in southern Brazil in the pre- and post-surgery periods of 12 months of LRYGB. The Scale "The Three Factor Eating Questionnaire R21 (TFEQ)" was used to assess emotional eating (EE), cognitive restriction (CR) and uncontrolled eating (UN). The difference in eating behavior between groups was assessed using the ANOVA test. The study was approved by the Research Ethics Committee of the PUCRS (3,118,429) and all individuals invited to participate signed the Free and Informed Consent Form.

Results:

The mean age of the patients was 48 years (± 10.7), with 22 (29%) patients being male and 55 (71%) being female. The mean BMI (body mass index) value was 43.7 (± 5.9) kg/m² in the preoperative period and 27.8 (13.9) kg/m², the mean percentage loss of excess weight was 86.6%. As for the eating behavior in the preoperative period, 48% of the sample presented the behavior of uncontrolled eating, 20.5% of cognitive restriction and 49% of emotional eating, and in the postoperative period 45.5% of the sample presented the behavior of cognitive restriction and 10.4% emotional eating. There was a significant difference between the pre and postoperative groups related to cognitive restriction and emotional eating behaviors ($p < 0.0001$).

Conclusion:

In the present study, was concluded that a bariatric surgery LRYGB had a complacent impact on the alteration of the eating behavior of bariatric patients. However, even when opting for bariatric surgery, the treatment of obesity depends on definitive behavioral changes, since possible recurrences of habitual eating patterns increase the risk of failure, such as weight regain and other complications.

Keywords: Bariatric surgery, feeding behavior, obesity.

P-045

EFFECT OF BARIATRIC SURGERY ON CIRCULATING AND URINARY MITOCHONDRIAL DNA COPY NUMBERS IN OBESITY WITH OR WITHOUT DIABETES

Basic science and research in bariatric surgery

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Introduction:

Recent studies have suggested that extracellular circulating and urinary mitochondrial DNA (mtDNA) are associated with mitochondrial dysfunction in obesity and type 2 diabetes mellitus (T2DM). However, the changes to cell-free serum and urinary mtDNA after bariatric surgery in patients with obesity with T2DM have not been investigated to date.

Methods:

We prospectively recruited patients with obesity (n=18), and with obesity and T2DM (n=14) who underwent bariatric surgery, along with healthy volunteers (HV) as a control group (n=22). Serum and urinary mitochondrial nicotinamide adenine dinucleotide dehydrogenase subunit-1 (mtND-1) and cytochrome-c oxidase 3 (mtCOX-3) copy numbers were measured using quantitative PCR (qPCR). The mtDNA copy numbers of patients with obesity (with and without T2DM) were followed up 6 months after surgery.

Results:

The copy numbers of urinary mtND-1 and mtCOX-3 in patients with obesity, with or without T2DM, were higher than those in the HVs. Moreover, urinary mtCOX-3 copy number increased in patients with obesity with T2DM compared with patients with obesity without T2DM ($p=0.018$). Meanwhile, serum mtCOX-3 copy numbers in HV were higher in both obesity patient groups ($p=0.040$). Bariatric surgery reduced urinary mtND-1 and mtCOX-3 copy numbers, as well as serum mtCOX-3 copy numbers only in patients with obesity with T2DM.

Conclusion:

These results suggest that T2DM induces greater kidney mitochondrial dysfunction in patients with obesity, which can be effectively restored with bariatric surgery.

P-046

EFFECT OF OMEGA-3 SUPPLEMENTATION ON LIVER SIZE-RELATED ACCESS TO THE GASTROESOPHAGEAL JUNCTION DURING BARIATRIC SURGERY

Perioperative management

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Background:

Adequate access to the gastro-esophageal junction (GEJ) is essential in bariatric surgery. Morbidly obese patients have large livers and limited access to these areas. Very Low Calorie Diet (VLCD) is commonly used to reduce the liver size pre-operation. VLCD is costly and initial hunger may lead to poor compliance with suboptimal pre-operative preparation.

Omega-3 supplementation is cheap and has been found to reduce hepatic steatosis by reducing lipogenic gene expression and in theory can reduce liver size. 1,2,3

Objective:

This is a safety and efficacy study to investigate the effect on liver size from 4 weeks of pre-operative Omega-3 supplement.

Method:

Patients with BMI<45, without excessive central obesity, who were planned for Bariatric & Metabolic Surgery were recruited. A dietician provided standard pre- bariatric surgery dietary counseling. The patient was given 2 g/day of Omega-3 for 4 weeks. Liver size measurement using ultrasound scan, as well as liver function and full blood count tests were performed pre and post omega-3 supplementation. The operating surgeon subjectively scored the ease of access to the GEJ using Likert scale of 1 to 5 (easiest to most difficult).

Results:

Thirteen patients completed the study and 7 still awaiting surgery. Male: Female ratio 2:3 with mean age 43 years. The mean pre-intervention weight and BMI was 101.6kg, 37kg/m2.

Pre- & post- intervention liver size was 1837± 424cm3 & 1673± 373 cm3 respectively. The mean liver size reduction was -165± 106cm3 ($p < 0.0001$).

All patients experienced a reduction in liver size (min -12.5cm3, max -374cm3). Six patients lost weight -1.47kg (average) but 7 gained weight +1.58kg.

The average ease of access to the GEJ was 1.9/5 on Likert scale. Eight patients had score 2/5, 3 had scores 1/5 and 2 had score 3/5. The operative time and the hospital length of stay was 108 min & 2.5 days respectively.

There was 1 port site bleeding and hematoma, treated conservatively. Compliance to daily Omega-3 for 4 weeks was 92% (12/13) with no adverse effects. There was 1 drop out due to financial reasons.

Conclusion:

Four weeks of Omega-3 supplementation is safe and may be a cheaper alternative to VLCD for liver size reduction pre- bariatric surgery in this interim report.

References:

Iannelli et al (2013), Abidin et al (2017) and Bakker et al (2019).

P-047

EFFECTS OF BARIATRIC SURGERY ON HYPERTENSION: A COMPARATIVE STUDY AND REVIEW OF LITERATURE

Type 2 diabetes and metabolic surgery

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Introduction:

One-anastomosis-gastric bypass (OAGB) and sleeve gastrectomy (SG) account for the vast majority of bariatric procedures in the Middle East. Several studies suggested improvement of hypertension following bariatric surgery but none of these studies compared the effect of these procedures on blood pressure control in the Middle East population

Objective:

To determine and compare the effect of one anastomosis gastric bypass (OAGB)and sleeve gastrectomy (SG)on blood pressure control and long-term improvement of hypertension.

Methods:

We reviewed the files of 128 patients with hypertension who underwent OAGB or SG in a bariatric center a teaching hospital and had a minimum of2-year follow-up. Data collection included general demographics of the patients, type of the procedure, preoperative and postoperative number of anti-hypertensive medications. Patients were classified into three groups according to the change in the number of postoperative anti-hypertensive medications needed to keep their blood pressure controlled: Group 1 (Resolution: off Medications), Group 2 (Partial resolution: Drop in the number of medications) and Group 3 (No resolution: same or increased number of medications)

Results:

At a median postoperative follow-up of3 years (range 2-4), hypertension was controlled in 91.3% of patients post OAGB and in 67.2% post SG ($P < 0.005$). Group 1 with complete resolution included 54.75% after OAGB and 43.12% of patients following SG. Group 2 showed partial resolution in 33% and 26.05% of patients following OAGB and SG respectively. No resolution was noticed in 12.25% and 30.83% of patients following OAGB and SG respectively.

Conclusion:

Bariatric surgery seems to have a significant role in blood pressure control and remission of hypertension with OAGB showing better results than SG on long-term follow up.

P-048

EFFECTS OF PREVIOUS EXPERIENCE OF BARIATRIC SURGERY IN CLOSE KIN PATIENTS ON POSTOPERATIVE OUTCOMES: A POPULATION STUDY IN THE MIDDLE EAST

Behavioral, psycho-social, and environmental predictors of bariatric surgery outcomes

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Introduction:

Bariatric surgery (BS) procedures are becoming increasingly frequent in the Middle east due to their safety and efficacy. Close-kin patient (CKP) referrals are common and one of the most cited reasons for seeking BS. Post-operative compliance and follow-up continue to be a challenge. Few studies have evaluated the effects of previous CKP experiences and the correlation with follow up compliance (FUC) and postoperative outcomes in BS patients.

Objectives:

To evaluate the effects of previous CKP experiences and their association with FUC and post-operative outcomes in patients undergoing metabolic surgery.

Methods:

A population-based study was conducted with IRB approval. Primary bariatric surgery (PBS) cases from January 2017 to December 2018 were included. Patients were contacted by phone to collect CKP information and their current weight. Patients were classified as those with CKP and non-CKP. Baseline and postoperative outcomes including FUC and weight loss were analyzed. Endpoints were evaluated based on previous positive or negative experiences of CKP. Continuous variables were presented as means with standard deviations (SDs) or medians with interquartile ranges (IQRs). Categorical data were presented as counts and percentages. Postoperative variables were compared between groups using the T-test and Z-test, and statistical significance was considered at P <0.05.

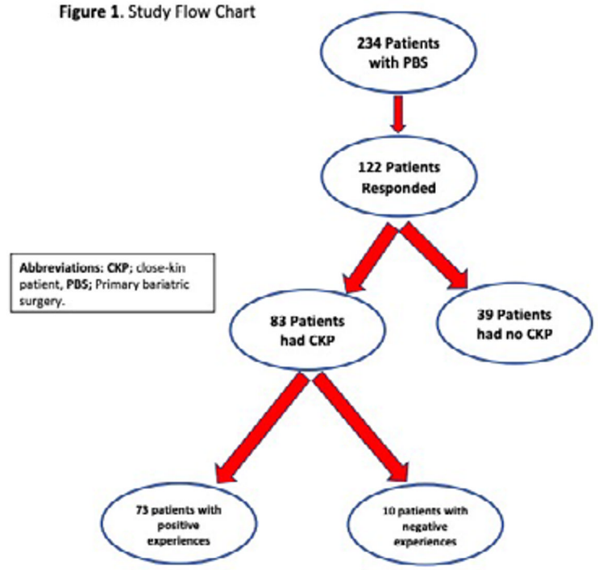
Results:

234 patients were identified and 122 (52%) completed the CKP data. 92 patients (72.4%) were female at a mean age of 39 years (SD±2.3). The initial median BMI was 43.3 (40.3-48.7) kg/m2. BS procedures were found as follows: 55% sleeve gastrectomy and 45% Roux-en-Y gastric bypass. The median follow-up for weight loss was 49 months (43.3-54.8). Eighty-three patients (68%) reported CKP and 39 patients (32%) didn't have CKP. Out of those 83 patients, 73 (88%) reported positive CKP (PCKP) and 10 (12%) negative CKP (NCKP) experiences. The FUC rates at 1,2 and 3 years were (77% PCKP vs 100% NCKP, p0.001), (51% PCKP vs 70% NCKP, p0.001) and (21% PCKP vs 30% NCKP, p0.001), respectively. At the median follow-up, the mean %TWL was (25.6 PCKP vs. 28.1 NCKP, p=.4718).

Conclusion:

Previous negative experience of close-kin patients after bariatric surgery is positively correlated with higher FUC rates and higher %TWL in bariatric patients.

Figure 1. Study Flow Chart



P-049

EFFICACY OF GLP-1 ANALOGUES FOR THE TREATMENT OF SECONDARY WEIGHT GAIN FOLLOWING BARIATRIC SURGERY

Management of weight regain after surgery

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Background/introduction:

Although bariatric surgery has been proven to be the most efficient treatment for obesity and its associated comorbidities, secondary weight gain may occur in up to 25% of the cases and significantly reduce the long-term benefits of the procedure. Treatment with GLP-1 analogues (GLP-1-a) can result in a significant weight loss and has been approved for the treatment of both type 2 diabetes mellitus and obesity, but its role in the treatment of post bariatric patients with weight regain remains to be defined.

Objectives:

To study the effect on weight of GLP-1-a in postbariatric patients with secondary weight gain.

Methods:

A single centre retrospective observational study in a Swiss bariatric reference centre in adults fulfilling the above-mentioned inclusion criteria. Data are presented as median with interquartile range in brackets, if not indicated otherwise, and nonparametric statistics were used. A p-value < 0.05 was considered significant.

Results:

50 patients (82% female) with a preoperative BMI of 41.8 kg/m2 (39.5-46.7) were included. Following bariatric surgery (Roux-en-Y gastric bypass 74%, vertical sleeve gastrectomy 10%, other procedures 16%), a total body weight loss of 30.0% (26.3-35.6) occurred to a nadir weight and BMI of 78.3 kg (71.7-91.3) and 29.2 kg/m2 (26.6-32.5), respectively. Eventually, the patients regained 13.0 kg (8.6-16.9), 15.1% (10.6-22.8) of total body weight and 72.0 months postoperatively (43.8-96.0) a GLP-1-a therapy (liraglutide 1.8/3.0 mg q.d., n=29; semaglutide 1.0 mg weekly/14mg q.d., n= 21) was initiated. At baseline, the weight was 90.5kg (83.4-107.9) and the BMI 34.0kg/m2 (31.7-38.7). After 6 months GLP-1-a therapy, the patients had lost 7.7 kg (5.0-11.7; p<0.0001), corresponding to a loss of 67.4% (40.4-92.2) of the secondary weight gain. The most common adverse events were gastrointestinal and mild.

Conclusion:

In patients with secondary weight gain following bariatric surgery, approximately two thirds of the regained weight can be lost safely with GLP-1-as, thus providing clinicians with a new therapeutic option for this frequent clinical problem.

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P-050

ENDOSCOPIC SLEEVE GASTROPLASTY (ESG-APOLLO®) IS USEFUL IN WEIGHT REGAIN AFTER PRIMARY OBESITY SURGICAL ENDOLUMINAL (POSE): PRELIMINARY REPORT

Endoscopic and percutaneous interventional procedures

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[1]Clínica Londres, Madrid, Spain; [2]Dexeus University Hospital, Barcelona, Spain.

Introduction:

Primary Obesity Surgical Endoluminal (POSE) is effective for weight loss but in midterm some patients may have weight regain and excess weight loss (EWL) is less than 25%.per year. To date, these cases required surgical conversion. Endoscopic Sleeve Gastroplasty (ESG-Apollo®) at midterm have been shown to be effective (EWL >25% per year), safe and technically feasible for obesity treatment but there are no studies showing its benefit in weight regain after POSE.

Objective:

To assess the technical feasibility, efficacy, and safety of sequential treatment with ESG-Apollo® in patients undergoing effective short-term POSE but weight regain in midterm.

Methods:

Descriptive and prospective study of obese patients undergoing ESG-Apollo® after short term effectiveness (>50% of lost <2años) with weight regain (>25% EWL per year) in midterm post POSE. Patients with persistent sutures (>75%) and free gastric body (>5 cm) in control endoscopy, after surgical option rejection, were included.

Results:

First group of 4 patients (3 males), average age 51 years (49-53) were included. We combined sequentially suture with ESG-Apollo® system. Average of 2.75 transverse sutures in gastric body and 14.25 stitches are added. In all cases, the procedures were safe and without adverse effects, with an excellent overall satisfaction rate per year.

Conclusions:

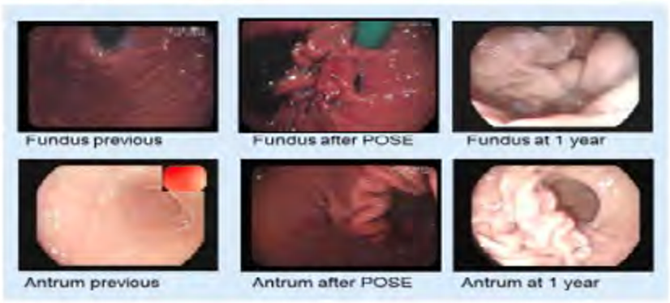
In patients undergoing POSE technique but with midterm weight regain, re-suture with ESG-Apollo® appears to be a viable, effective, and safe option. Broader longer-term studies are required.

TABLA 1. EWL EVOLUTION CASES SERIE: POST POSE TO ESG-APOLLO®

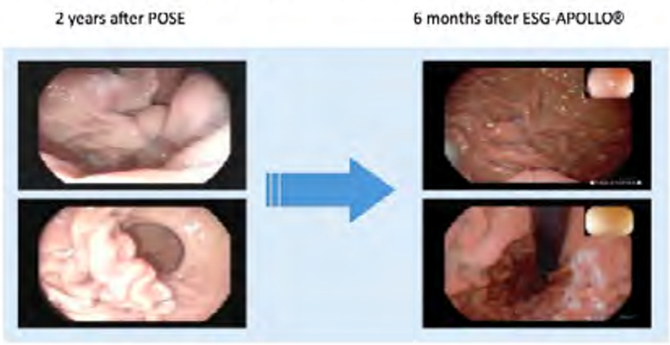
CASES SERIE N=4	2014 POSE	2015 POST POSE	2017 ESG-APOLLO	2018 POST ESG-APOLLO®
Weight WL (EWL) Nº of sutures	117kg 12 (9 + 3)	98kg 19kg (39%) 10 (7 + 3)	115kg 3 (18 stitches)	96kg 19kg (38%) 2
Weight WL (EWL) No. of sutures	100kg 12 (9 + 3)	83kg 17kg (56%) 9 (6 + 3)	91kg 3 (15 stitches)	84kg 7kg (35%) 3
Weight WL (EWL) No. of sutures	85kg 12 (9 + 3)	70kg 15kg (62%) 10 (8 + 2)	83kg 2 (8 stitches)	67kg 16kg (68%) 2
Weight WL (EWL) No. of sutures	109kg 12 (10 + 2)	90kg 19kg (49%) 9 (7 + 2)	104kg 3 (16 stitches)	84kg 20kg (59%) 3
TOTAL Weight WL (EWL) No. of sutures Nº stiches	103kg 12	85kg 18kg (52%) 9.5 (9-10)	98kg 2.75 (2-3) 14.25(8-18)	83kg 15kg (50%) 2.5 (2-3)

WL: Weight Loss, **EWL:** Excess weight loss

ENDOSCOPY EVOLUTION AFTER POSE



ENDOSCOPY FOLLOW UP AFTER ESG-APOLLO® SECUENCIAL TO POSE



RADIOLOGICAL EVOLUTION POST POSE AND SECUENCIAL ESG-APOLLO®

P-051

ENDOSCOPIC TREATMENT OF POST-SLEEVE GASTRECTOMY (SG) STAPLE LINE LEAKS (SLL) USING ENDOSCOPIC COVERED SELF-EXPANDING METAL BARIATRIC STENTS (EBS) – CASE SERIES

Endoscopic and percutaneous interventional procedures

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Introduction:

Management of SLL after sleeve gastrectomy (SG) represents a high-cost burden to health systems worldwide, with high morbidity and mortality rates for affected patients. Management of these transmural defects remains therapeutically challenging. The use of EBS for the management of post-operative SLL is the most commonly used endoscopic modality. These stents work by means of omitting the site of leakage from esophago-gastric secretions, ultimately preventing further contamination, and enhancing healing of the leak site.

Objectives:

To evaluate the safety profile and effectiveness of covered endoscopic self-expanding metal bariatric stents (EBS) for the treatment of SLL after SG in a cohort of four Brazilian patients.

Method:

Four patients with SLL after SG were prospectively evaluated, in the same center. The following variables were assessed: age, gender, date of diagnosis of the leak, interval between the diagnosis of the leak, the size of the leak and the endoscopic treatment and surgical approach.

Results:

All female patients between age 25 and 41. Two patients had the leaks presentation between 8- and 42-days post-operative (intermediate), one had an acute leak (first post-operative day) and one patient had an early leak (first 7 days). The interval between the diagnosis of the leak and the endoscopic treatment ranged from 3 days to 21 days. All patients underwent laparoscopic drainage of abdominal collection and raffia of the leak. All orifices were considered small (less than 10 mm) and EBS were used in all cases. All SLL successfully closed after 6 weeks period of treatment with EBS.

Conclusion:

EBS have gained popularity and seem to be an effective tool for management of small post-SG SLL specially in the acute and early post-operative period, following the timely control of abdominal sepsis.

P-052

EUGLYCEMIC DIABETIC KETOACIDOSIS PRESENTS AS A SURPRISING COMPLICATION AFTER BARIATRIC SURGERY

Perioperative management

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Background:

One of the main indications for bariatric surgery is morbid obesity with diabetes. An increasingly popular diabetic medication is canagliflozin, which is a SGLT2 inhibitor. The medication is associated with a euglycemic diabetic ketoacidosis. Generally, patients present with glucose levels less than 200 mg/dL, an anion-gap metabolic acidosis, and ketonemia. Prompt diagnosis is key to proper treatment of this potentially life-threatening condition. SGLT2 inhibitors should be discontinued 3 days prior to surgery.

Objectives:

The goal is to increase awareness of euglycemic diabetic ketoacidosis in patients undergoing bariatric surgery.

Methods:

This is a case report.

Results:

A 37-year-old female with history of morbid obesity and diabetes underwent laparoscopic sleeve gastrectomy. On post-operative day 1, patient's labs were remarkable for bicarbonate level of 6 mEq/L, anion gap of 19 mEq/L, and urinary ketones 2+ mg/dL. Interestingly, patient's glucose and lactate levels were unremarkable. Patient was taken back to the OR for a diagnostic laparoscopy, which did not reveal any significant pathology. Nephrology and endocrinology specialists were consulted and diagnosed the patient with euglycemic diabetic ketoacidosis. Euglycemic diabetic ketoacidosis is associated with patient's prior use of canagliflozin. Patient was started on a bicarbonate and insulin drip until her labs normalized. Patient was discharged home on stable condition at one week after surgery.

Conclusions:

Euglycemic diabetic ketoacidosis can be a life-threatening complication after bariatric surgery. Diagnosis is commonly delayed because glucose levels are less than 200 mg/dL. Many bariatric patients have diabetes and are treated with SGLT2 inhibitors. Surgeons should have a high index of suspicion given patient's clinical presentation and medication history.

P-053

EVALUACIÓN DE PREVALENCIA DE ALTERACIONES EN PRUEBAS DE FUNCIÓN PULMONAR EN PACIENTES CANDIDATOS A CIRUGÍA BARIÁTRICA Y METABÓLICA

Atención multidisciplinaria (atención primaria, gestión médica)

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Unidad de Cirugía Bariátrica y Metabólica, Hospital Civil de Guadalajara Dr. Juan I. Menchaca, Guadalajara, Mexico.

Introduccion:

La obesidad ejerce un cambio a nivel mecánico y metabólico del proceso de ventilación y oxigenación de la sangre, afectando principalmente la dinámica ventilatoria, por lo que es de suma importancia abordar el estado del sistema pulmonar en pacientes con obesidad.

Objetivo:

Describir la prevalencia de las alteraciones en las pruebas de función pulmonar de pacientes candidatos a cirugía bariátrica.

Método:

Se realizó un estudio de tipo retrospectivo y transversal, analizando los expedientes clínicos de los pacientes sometidos a valoración pulmonar entre enero 2015 y enero 2021. Las variables cuantitativas fueron comparadas mediante el uso de la prueba “t” de Student y la prueba de “U” Mann-Whitney; y el test exacto de Fisher para las variables cualitativas. Para el análisis estadístico se utilizó el programa estadístico IBM SPSS Statistics Versión 25.

Resultados:

Un total de 180 pacientes, de acuerdo a la prueba de Kolomogorov-Smirnov la distribución de la muestra no es normal (p<0.001-0.002); el 78.8% fueron mujeres y el 22.2% hombres. El 23.3% se encontraba entre los 18-30 años, 49.4% entre 31-43 años, 20.0% entre los 44-55 años y el 7.2% entre los 57-69 años. El IMC promedio fue de 43 kg/m2.

El 47.8% presentó obesidad grado III; y el 23.3% y 22.2% obesidad grado II y I, respectivamente.

En cuanto a comorbilidades, 22.8% presentó Diabetes Mellitus tipo 2, 34.4% Hipertensión Arterial Sistémica y 75.5% Síndrome metabólico, la existencia de un IMC elevado demostró correlación con estas comorbilidades y con niveles elevados de PCR.

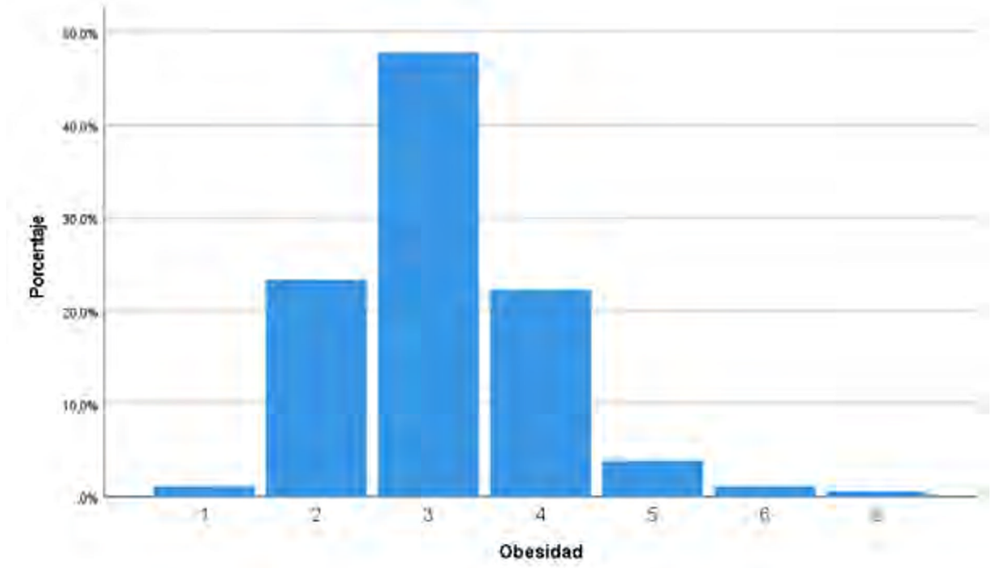
El IMC mayor a 35 kg/m2 se relacionó con la disminución de la FEV1(p=0.004, Rho=0.214) y la capacidad vital forzada (p<0.001, Rho=-0.280). La prevalencia de alteraciones en las pruebas de función pulmonar de la población se distribuyó de la siguiente manera: evidenciamos un aumento en los niveles de la gasometría arterial del PCO2 en el 7.2%, aumento en los niveles de HCO3 en el 16.7%, un valor de FEV1 alterado en el 13.9%, así como valores alterados de FVC y FEV1/FVC en el 11.7% y 3.3% respectivamente.

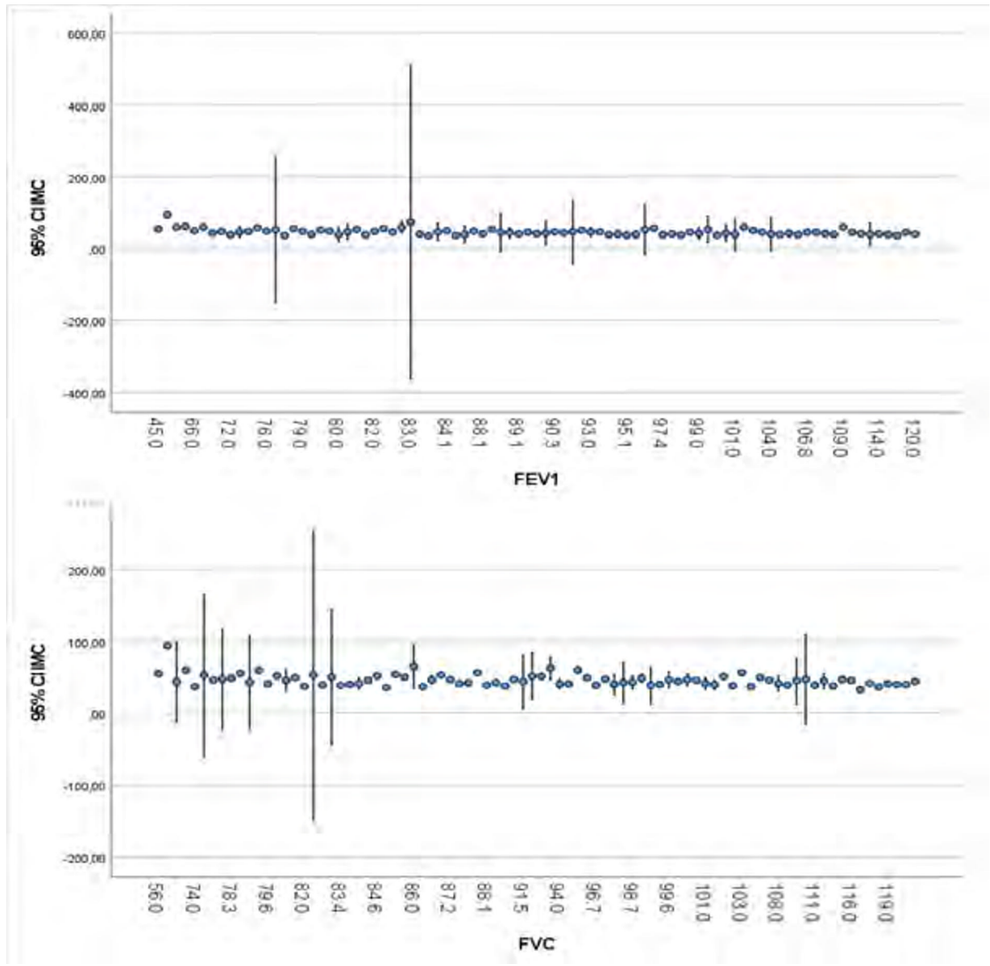
Conclusiones:

El grado de obesidad se relaciona con la prevalencia de alteraciones en las pruebas de función pulmonar de los pacientes con criterios para ser someterse a cirugía bariátrica.

Los hallazgos encontrados en nuestro estudio fueron similares a lo publicado en la literatura.

La valoración neumológica es fundamental para el correcto manejo de estos pacientes.





P-054

EVALUACIÓN Y EVOLUCIÓN DE HÁBITOS ALIMENTARIOS EN PACIENTES OBESOS SOMETIDOS A CIRUGÍA DE MANGA GÁSTRICA EN UNA UNIDAD DE CIRUGÍA BARIÁTRICA DE SANTO DOMINGO, RD, DURANTE EL PERÍODO 2011-2020

Nutrition, eating behaviors before and after bariatric surgery

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Introduccións:

La cirugía bariátrica es una de las alternativas más efectiva para tratar la obesidad como lo demuestra. Sin embargo,la eficiencia de esta depende en gran medida también de los hábitos alimentarios postoperatorios adquiridos por el paciente.

Objetivos:

Evaluar los hábitos alimentarios en pacientes obesos sometidos a cirugía de Manga Gástrica en Santo Domingo en tres etapas.

Metodos:

Se analizaron 35 historiales clínicos de pacientes sometidos a la cirugía en la unidad Bariátrica seleccionada.

Resultados:

Antes de la cirugía un 25.81% tuvo una ingesta calórica ocasional menor a 1000 Kcal, un-32. 26% entre 1000-1700 Kcal y un-41. 93% más de 1700 Kcal, siendo un 48.71% de hidratos de carbono, un 15.54% de proteínas y un 28.20% de grasas donde además el 70% de los pacientes no realizaban actividad física y un 65% refirió pobre higiene del sueño; al mes postquirúrgico todos los pacientes consumieron menos de 1000 Kcal, 56.68% de hidratos de carbono, 11.27% de proteínas y 34.94% de grasas. A los tres meses posteriores todos consumieron entre 1000-1700 Kcal, 41.77% de hidratos de carbono, 22.55% de proteínas y 30.33% de grasas y la gran mayoría sí reflejó rutinas de actividad física, hidratación adecuada según los registros de diarios de alimentos y mejoró la calidad y cantidad del sueño.

Conclusión:

Los hábitos alimentarios postquirúrgicos con respecto a los anteriores a la cirugía se acercan más a las recomendaciones nutricionales.

Recomendaciones:

Cumplimiento del seguimiento nutricional postquirúrgico por parte de los sometidos a cirugía bariátrica hasta que se alcance el peso ideal y se logre mantenerlo

Palabras claves: Obesidad, Manga Gástrica, Ingesta Calórica, Macro nutrientes, Nutrición

P-055

EVALUATION OF THE NUTRITIONAL STATUS OF SLEEVE GASTRECTOMY PATIENTS: A PROSPECTIVE RANDOMIZED CLINICAL TRIAL

Nutrition, eating behaviors before and after bariatric surgery

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Background / Introduction:

Nutritional status of patients with sleeve gastrectomy was evaluated.

Objective:

Sleeve Gastrectomy, one of the methods of bariatric surgery, has become a method that grew in reliability and practiced frequently in recent years. Therefore, in our study, postoperative 6 months, the interperiod effect of the nutritional program that is practiced on patients according to bariatric surgery rules is researched.

Methods:

The study is conducted in Bursa Uludağ University Faculty of Medicine Hospital, General Surgery Clinic, between the dates of September 2016 and June 2017. 20 Morbid Obes patients who had SG operation, between the ages of 18-65, 3 males and 17 females are included in our study. Anthropometric measurements, biochemical findings, comorbids, complications and dietary habits of the preoperative and postoperative patients during the 3rd and 6th months are evaluated. For the sake of statistical significance, Friedman Test and Cochran's Q Test are used, and $p<0,05$ is accepted.

Result:

In our findings, while the weights of the patients during the preoperative period was 126,01±23,52 kgs, during the postoperative 6th month, it was determined that, the patients had lost 34 kgs, and it was confirmed that the EWL was %60,2 during the first six months. It is found that the fat mass of the patients decreased during the preoperative period from 56,91±7,64 to 40,21±8,40 in postoperative 6th month (<0,0001). Differences of the levels of calcium, preprandial blood glucose, HbA1C, LDL, ALT, AST, total cholesterol, triglyceride, folic acid and uric acid are statistically accepted, and it is recorded that high levels have decreased to normal. It is pointed out that the 15 of 21 comorbids present in patients have recovered in the postoperative 6th month.

Conclusions:

It is determined that after Sleeve Gastrectomy, as a result of a proper diet in accordance with bariatric surgery, patients have lost weight, biochemical findings have improved and comorbids have recovered.

P-056

EVEN REVISIONAL BARIATRIC SURGERY CAN BE SAFE IN SELECTED CIRRHOTIC PATIENTS WAITING TO ENTER THE TRANSPLANT WAITING LIST

Transplants (liver, kidney)

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Background:

More and more cirrhotic patients with morbid obesity are coming to liver transplant units (LTU). Because morbidly obese patients are less likely to enter the transplant waiting list, it is increasingly common to offer bariatric surgery (BS) prior to liver transplantation (OLT), especially in patients with hepatocellular carcinoma (HCC) and compensated cirrhosis.

However, revision bariatric surgery (RBS) is very rarely offered to patients with known cirrhosis.

Objectives:

Describe the first cirrhotic patient who underwent an RBS in our hospital in order to be included in the OLT waiting list.

Methods:

55 years old male patient, BMI 71.8 kg/m2 (177 kg; 1.57 m). Open approach Gastric bypass was scheduled in another hospital in 2010. During surgery, liver cirrhosis was diagnosed, and the surgeon performed a Sleeve Gastrectomy instead. Minimum weight reached 2 years after: 101 kg (BMI 41 kg/m2).

In 2018, he was referred to the LTU due to an HCC. Radiofrequency ablation (RFA) was performed in December 2018. At that time the patient weighed 120 kg (BMI 48.7), therefore liver transplantation was ruled out. In July 2019, he relapsed with HCC, for which reason two new RFAs were performed with a good response.

With a weight of 112 kg (BMI 46) and an RBS was proposed prior to OLT.

The patient had a large incisional hernia, a hiatal hernia with short Barrett's esophagus, and sleep apnea. On antiviral treatment with tenofovir (HBV viral load negative). Child A5.

Results:

By an open approach, a Roux-en-Y Gastric Bypass and repair of her incisional hernia was performed (150 cm alimentary limb: 100 cm biliopancreatic limb and 200 cm common channel). He resumed oral intake at first postoperative day and was discharged on the 5th day without complications.

At 6 months the patient had a weight of 93 kg, BMI 38.2 kg/m2, %EWL 37.2%; %TWL 17%. His entry into the liver transplant waiting list was considered but this was delayed due to the absence of active HCC at that time.

At 12 months the patient weighed 100 kg (BMI 41.1 kg/m2; %EWL 23.5%; %TWL 10.7%).

Currently, 18 months after surgery, patient weight is 102 kg, BMI 41.9: %EWL 19.6% and %TWL 8.9%.

It is considered ready to enter transplant waiting list in case of HCC recurrence.

Conclusion:

Bariatric Surgery is safe in compensated cirrhotic patients, who need a OLT due to HCC. In selected patients it is safe to perform a gastric bypass even as a RBS, to increase the chances of being transplanted.

P-057

EXPERIENCIA DE BALÓN ELIPSE CON EQUIPO MULTIDISCIPLINARIO EN PANDEMIA

Endoscopic and percutaneous interventional procedures

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[1]Universidad de Atacama, Copiapó, Chile; [2]General Surgery, Hospital Regional de Copiapó, Copiapó, Chile.

Introduction:

Coronavirus disease 2019 (COVID-19) has generated changes worldwide, being declared a pandemic by the World Health Organization. The severity of this disease is closely related to obesity, due to its characteristics of systemic, multi-organ, metabolic and chronic inflammatory alteration. Thus, Obesity leads to a higher risk of mortality in those who have this double condition. One of the tools currently used to reduce obesity is the use of the minimally invasive Ellipse intragastric balloon, which induces satiety and contributes to delay gastric emptying.

Objective:

To analyze the implantation of Ellipse balloons in conjunction with a multidisciplinary team for the treatment of overweight and grade I obesity in times of pandemic.

Methodology: 48 patients with overweight and obesity grade I were operated on with an elliptical balloon for 4 months by a multidisciplinary health team composed of medical specialists, psychologist, nutritionist, kinesiologist, among others. Variables such as weight, height, BMI, % of body fat, muscle, and water were evaluated previous and after the Balloon intervention.

Results:

There was a significant decrease between initial weight, BMI, and body composition compared to the last 3 months ($p<.05$) with a difference of 12.7 kilograms.

Conclusion:

This difference of a 14% decrease in body weight proved to be of great benefit to the participants in not only reducing the risks associated with excess weight but also the relationship between the severity of Covid-19 and obesity by a multidisciplinary team.

P-058

EXPERT REVIEW ON OUTCOMES OF SINGLE ANASTOMOSIS DUODENO ILEAL BYPASS AND SINGLE ANASTOMOSIS STOMACH ILEAL BYPASS FOR TYPE 2 DIABETES

SADIs

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Introduction:

Bariatric surgery has demonstrated long term effectiveness in inducing weight loss and improving metabolic parameters for obesity. Single anastomosis sleeve ileal (SASI) bypass and single anastomosis duodenal ileal (SADI) bypass have both emerged as new promising bariatric procedures. In this paper, we review the existing literature and compare the outcomes of SADI and SASI bypass procedures in regard to weight loss, complication rate, and improvement of type II diabetes (T2DM). This has not yet been done in the pre-existing literature.

Methods:

We conducted a systematic literature search of electronic databases focusing on weight loss outcomes, rate of complications, and remission or improvement of T2DM and other obesity related comorbidities. 20 studies on SADI and 9 studies on SASI were included. Both are similar in surgical technique and have demonstrated fewer complications when compared to other bariatric procedures. Mean preoperative BMI were similar in both groups of studies, 46.4 kg/m2 in SADI and 48.8 kg/m2 in SASI. Mean %EWL at 12 months in the SADI group was 74.1% and 77.4% in the SASI group. Preoperative severity of T2DM appeared to be higher in the SASI patient group with a higher preoperative HbA1c and fasting blood glucose levels.

Results:

T2DM resolution was achieved in a significant proportion of both SADI and SASI patient populations, (78.5% in SADI and 89.0% in SASI). Complications rates were comparable in both procedures.

Conclusion:

Both SADI and SASI are effective in inducing weight loss at 12 months with a low rate of major complications and mortality. From the studies included in this review, the SASI procedure had a higher impact on T2DM resolution compared to SADI.

P-059

FIRST ENDOSCOPIC TRANSORAL INCISIONLESS FUNDOPLICATION WITH ESOFYX DEVICE PERFORMED IN LATIN AMERICA FOR THE TREATMENT OF GASTROESOPHAGEAL REFLUX DISEASE – CASE REPORT

Endoscopic and percutaneous interventional procedures

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INTRODUCTION:

Gastroesophageal reflux disease (GERD) is the most common gastrointestinal disorder in the United States. In Brazil, almost 10% of total population has ever felt typical or atypical symptoms of reflux. First described in 2005, TIF procedure is a minimally invasive and well tolerated alternative that emulates traditional surgical principles of antireflux surgery with an endoscopic approach. OBJECTIVE: To report the first case of Endoscopic transoral incisionless fundoplication (TIF procedure) with EsophyX device performed in Latin América for the treatment of GERD.

Methods:

A 38-year-old man with no comorbidities (Body Mass Index BMI 23 Kg/m2) referring long term (more than two years) daily classical symptoms of reflux such as heartburn and regurgitation despite of Proton Pump Inhibitors (PPI´s) therapy for more than six months. At that moment, he was having continuous symptoms and impaired quality of life regardless the use of 40mg of pantoprazole twice a day. At the Upper Endoscopy report, there was no evidence of hiatal hernia, but there was a Los Angeles Grade A esophagitis and a slight diaphragmatic hiatus enlargement, described as Hill Grade II. High resolution esophageal manometry showed no functional motility disorder or hypotonic LES. 24-hour pH monitoring reported pathologic reflux episodes and DeMeester score of 32. Because of the patient´s preference for minimally invasive procedures, Transoral Incisionless Fundoplication (TIF) was proposed and scheduled, after informed consent was provided. The patient received general anesthesia and was positioned in the left lateral decubitus. Upper endoscopy was conducted to confirm proper preparation conditions, as well as note the level of the esophagogastric junction and diaphragmatic pinch. The valve creation initiated at the 11 o'clock position. Three pairs of fasteners were delivered at the 11 and 1 o'clock position. Two pairs of fasteners were delivered at 5 and 7 o'clock position. For the total construction of the 270º valve, 20 fasteners were successfully used. The patient had no anesthetic or procedural immediate complications, remained asymptomatic and was successfully discharged, after a six hours observation period.

Conclusion:

TIF procedure seems to be safe and reproducible treatment for the treatment of GERD since it is able to reduce hiatal hernia, elongate abdominal esophagus, tighten the fundus around distal esophagus and restore the distal esophagus high pressure zone.

P-060

FUNCTIONAL CHARACTERISTICS OF THE ANASTOMOSIS AFTER MODIFIED MONO ANASTOMOTIC GASTRIC BYPASS FOR MORBID OBESITY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

A. Klymenko, V. Klymenko, M. Nikolaiev.

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Introduction:

Mono anastomotic gastric bypass (MGB) at the present time is a group of techniques for morbid obesity treatment incorporating an idea of a single gastrojejunal anastomosis. Among advantages of the MGB are absence of potential complications related to the second anastomosis and cost-effectiveness considering time and reloads. The potential disadvantages are usually mentioned as reflux-esophagitis, displasia, Barrett esophagus related to bile reflux and are thought to be prevented by long gastric remnant and large anastomotic diameter as it was primarily described by dr. R. Rutledge.

Understanding anastomotic function as a combination of anatomical and functional characteristics of the esophagus, gastric stump tube, anastomosis itself and both limbs let us change that paradigm and go for short (6-8 cm) thin gastric stump with hand-sewn antireflux anastomosis.

Objectives:

Were to analyse antireflux function of the modified mono anastomotic gastric bypass for morbid obesity.

Methods:

Results of treatment of 30 patients were analysed. The patients were divided into two groups: 1-st group - 19 patients - MGB group, 2-nd group -11 patients - Roux-en-Y group. In the MGB group there were 18 (94.7%) women, 1 (5.3%) men. In the Roux-en-Y group there were 10 (91.0%) women and 1 (9.0%) men.

Results:

Duration of the operation ranged from 120 to 290 minutes. No mortality or anastomosis related morbidity was detected. In both groups, weight loss after 6 months ranged from 12 to 52 kg.

Patients were examined by 24 h pH-impedance, barium series and endoscopy in 3-6 months after the surgery. In the period of 0-3 months 6 (31,5%) of 19 pts. of MGB group suffered of temporary bile reflux after dietary restrictions violation. The patients became aware of the relation of the symptoms to the particular types of mostly unhealthy foods and after adjustment of the diet symptoms of bile reflux gone. While examination in 3-6 months no pathologic reflux or esophagitis were found. None of the patients was reconstructed so far. Quality of life of all the patients remains high as well as level of satisfaction of surgical results.

Conclusion:

1. Mono Anastomotic gastric bypass in our modification is an effective and safe technique for morbid obesity treatment.
2. Length of gastric stump is not the only factor to determine excellent results of the anastomotic antireflux function.
3. Further research is needed to evaluate the results in the remote period.

P-061

GASTRIC REMNANT PERFORATION AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: A CASE SERIES

Endoscopic and percutaneous interventional procedures

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[1]AZ Turnhout, Rubensstraat Belgium; [2]AZ Turnhout, Lepermanlei, Belgium; [3]AZ Turnhout, Dennenlaan, Belgium.

Introduction:

Laparoscopic Roux-en-Y gastric bypass is a safe and effective form of bariatric surgery. However, there are some complication known to occur after this procedure. We report three new cases of gastric remnant perforation after Roux-en-Y gastric bypass. The first case is a 38-year-old male who presented with acute abdominal pain 9 years after gastric bypass. The second case is a 47-year-old female with subacute abdominal pain 5 years after gastric bypass. Lastly the third case is a 30-year-old male who presented with acute epigastric pain, 2 years after gastric bypass. All patients underwent an explorative laparoscopy with closure of the perforation and omentoplasty. Here we discussed the clinical presentation, investigation and management of gastric remnant perforation.

Objectives:

We present three cases of abdominal pain due to gastric remnant perforation a few years after laparoscopic Roux-en-Y gastric bypass.

Methods:

This is a case series of retrospective review regarding three patients with postoperative complications after laparoscopic Roux-en-Y gastric bypass. Both diagnosis and management happened in the same institution.

Results:

In all three cases, the patient presented with (sub)acute abdominal pain, mainly in the epigastric region. Blood analysis showed elevated inflammatory parameters. Ultrasound and CT-scan showed free fluid in the abdomen , remarkably without any signs of perforation and/or herniation. We performed an explorative laparoscopy in all cases. On exploration, a gastric remnant perforation was identified. The defect was closed in an interrupted fashion with sutures. Additionally an omentoplasty was performed to cover the repair. The patients postoperative course was uneventful. All symptoms improved after surgery. A few days after surgery the patients were discharged after drain removal with a proton pump inhibitor.

Conclusion:

Based on the few reports regarding this complication in literature, analysis of these cases suggests that gastric remnant perforation after laparoscopic Roux-en-Y gastric bypass is an uncommon postoperative complication. Pathogenesis of these perforations are multifactorial. Detection of this postoperative complication is difficult since imaging is sometimes not conclusive and therefore cannot exclude a perforation. A definite diagnosis can be made when performing an explorative laparoscopy. Inspection of the gastric remnant is essential to avoid missed perforation.

P-062

GASTRIC TEAR FOLLOWING INTRAGASTRIC BALLOON INSERTION, CASE REPORT AND REVIEW OF LITERATURE

Endoscopic and percutaneous interventional procedures

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Introduction:

Although most patients tolerate balloons well, IGBs can sometimes cause complications. These are usually mild, although rarely they can be severe

Case presentation: We report a case of severe peritonitis and sepsis due to large gastric tear following IGB insertion that necessitated surgical treatment.

Discussion:

Few cases of gastric perforation following IGB insertion were reported in the literature. Most of the perforations were simple small. The mechanism of perforation is not well known, however, it could be a fetal complication.

Conclusion:

Further studies are needed to determine possible causes of this complication. Early diagnosis can avoid fetal outcomes.

P-063

GASTRITIS PLEGMONOSA COMO HALLAZGO INCIDENTAL PACIENTE INMONOSUPRIMIDO OPERADO DE SLEEVE GASTRICO. DESCRIPCION DEL CASO

Complicaciones postoperatorias

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Introduccion:

La Gastritis Flegmonosa es un hallazgo infrecuente en cirugía bariatrica, es una condición fatal en la mayoría de las veces que afecta la mucosa y submucosa del estómago. debuta con perforación como un abdomen agudo. Dentro de los factores de riesgo asociados esta HV, injuria de la mucosa, cirugía, hipocloremia, diabetes mal controlada. La infección puede ser 5% localizada y en 15% de los casos es generalizada. Los gram positivos como el streptococo es el patógeno más frecuente asociado.

Objetivo:

Describir el hallazgo incidental de una gastritis flegmonosa en un paciente con HIV en un sleeve gástrico por laparoscopia para manejo de obesidad.

Metodo:

Paciente de 43 años, con 10 años de obesidad, en el 2006 diagnosticado con HIV por un sarcoma de Kaposi ahora en tratamiento antirretroviral con carga viral negativa, ingresa para manejo grupo con BMI 38 con NASH, SAHOS y artropatía de rodilla. Hallazgos positivo preoperatorio: hígado graso, elevación de enzimas hepáticas, endoscopia normal no h pylori. Se programa para una gastrectomía en manga estándar, 5 trocares, se evidencia intraoperatoriamente engrosamiento de todo el estómago, con dificultad para el paso del dilatador. Se realiza gastrectomía con bujía 38 F, recargas 60 mm púrpuras Endogia, refuerza línea de grapa con PDS 3/0. Tiempo quirúrgico 50 minutos.

Resultados:

Evolución postoperatoria satisfactoria, se inicia y tolera vía oral a las 4 horas del procedimiento, alta al día siguiente, se habla con patóloga para el procesamiento rápido de la muestra por sospecha de linfoma gástrico. Patología reporta infección de todo el estómago por hylori con abscesos en toda la submucosa del estómago.

El paciente fue tratado con tratamiento triconjugado por 10 días y endoscopia de control sin evidencia de alteraciones en la arquitectura gástrica y erradicación del h pylori

Conclusión:

Phlegmonous gastritis is a rare finding, puede estar relacionado con inmunosupresión y más frecuentemente posterior a procedimientos gástricos con inoculación de bacterias gram positivas especialmente el streptococo. La evidencia de abscesos en toda la pared secundaria a helicobacter pylori es muy rara y más como hallazgo incidental asintomático en un sleeve gástrico.

P-064

GASTRO-GASTRIC FISTULA: A RARE COMPLICATION FOR ONE ANASTOMOSIS GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

A 68-year-old patient was referred to our institution electively (OAGB/MGB). In 2016, he underwent a laparoscopic (OAGB/MGB) (preoperative body mass index (BMI) was 41). 8-months later, he presented to us with sudden upper abdominal pain, normal blood tests. CT was done that revealed free peritoneal air. He underwent a laparoscopic omentopexy for perforated ulcer at the anterior wall of the anastomosis. 7-months later, he had slight abdominal pain and heartburn that were partially responding to proton pump inhibitors. Gastroscopy was done and revealed gastro-gastric fistula.

The patient BMI now is 27 static for 6 months.

Discussion:

The incidence of long-term bile reflux after OAGB/MGB has been reported to range from 0.4 to 4% [3, 4, 5, 6, 7, 8,].

Musella et al. and Carbajo and colleagues reported that all patients in their series were managed conservatively and none required surgical intervention for bile reflux [7, 8]. Other authors reported several patients requiring revisional surgeries for bile reflux. Noun and colleagues reported that 0.4% of their patients required conversion to RYGB for bile reflux while Bruzzi et al. reported a 1.6% conversion rate to RNY for bile reflux [5,].

Gastro-gastric fistula after primary MGB was never reported in the literature ,abdelrahman reported Gastro-gastric fistula after conversion operation from LASG to MGB

Conclusion:

Gastro-gastric fistula is an unusual etiology of bile reflux after primary OAGB/MGB that was rarely reported in the literature.

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Image 2 08:33

לולאה Aפרנטית 08:34

Image 4 08:33

P-065

HIATAL CLOSURE USING COR-KNOT® TITANIUM SUTURE FASTENING DEVICE DURING LAPAROSCOPIC SLEEVE GASTRECTOMY

Hernia surgery in the bariatric patient

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Background:

The ideal hiatal hernia repair is a much-debated topic in the literature. Much less contested, is the need to repair known or incidental hiatal defects during laparoscopic sleeve gastrectomy, potentially avoiding exacerbation or development of reflux disease. Perfectly positioned and appropriately secure suturing of the crura can be challenging, even for experienced laparoscopic surgeons.

Objectives:

To describe a safe, time efficient and effective method of hiatal closure during laparoscopic sleeve gastrectomy with the aid of Cor-Knot® titanium suture-fastening device.

Methods:

In 50 patients, a crural defect was noted during primary or revisional laparoscopic sleeve gastrectomy. A master bariatric surgeon in an international centre of bariatric excellence performed all procedures. The crura was subsequently delineated and Cor-Knot® titanium suture fastening device utilised, ensuring 2-0 Ethibond sutures appropriately opposed the right and left crura. The number and anatomical location of interrupted sutures deployed was customised to the hiatal defect.

Results:

All 50 patients were followed up at 3, 6, 9 and 12 monthly intervals post operatively. There were no complications associated with the technique. None of the patients required further hiatal surgery.

Conclusion:

Cor-Knot® technology is heavily utilised in cardiothoracic surgery to ensure secure and perfectly positioned sutures are deployed during valve replacement. This technology can also be utilised in bariatric surgery, ensuring effective and timely closure of the hiatus. The intermediate length follow up, has demonstrated its safety and efficacy in hiatal closure.

P-066

HILL MODIFIED, A NOVEL APPROACH: TECHNIQUE DESCRIPTION AND EXPERIENCE IN PATIENTS WITH LAPAROSCOPIC SLEEVE GASTRECTOMY

GERD and the sleeve – how to manage

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Introduction:

Gastroesophageal reflux disease (GERD) is a common disease among obese patients, with an associated prevalence of 39% to 61% between the population who attends a bariatric surgery evaluation. Laparoscopic Sleeve Gastrectomy (LSG) has become a popular and valid option for obesity treatment, even though the literature is ambivalent regarding the increase or decrease in GERD after this surgery. Thus, it is necessary to propose new surgical techniques as a solution to GERD in patients with a concomitant LSG or with a history of it. Therefore, we present a modified technique based on Hill´s gastropexy described originally in 1967.

Objective:

Describe and propose a surgical procedure for GERD management based on the Hill technique that can be applied in all patients who undergo an LSG or with a history of it.

Methods:

Retrospective observational study with a prospective database in which we described, Hill modified technique in a group of 16 patients with GERD who underwent this procedure concomitantly with an LSG or who presented with GERD after LSG with a 3-years follow up. The surgical technique is based on an intra-abdominal esophageal length of a minimum of 3 cm and posterior fixation of the gastroesophageal junction to the crus.

Results:

Postoperative controls have shown satisfactory results in the control and management of GERD symptoms in this group of patients, with no complications associated with the procedure and without reintervention or medication out of the standard protocol.

Conclusion:

Hill modified technique can be used and presented as an option for GERD control in patients with LSG.

P-067

HOW DO WE MANAGE STAGED SURGERY STRATEGY IN SUPEROBESE PATIENTS (BMI>50 KG/M2)? DO WE ALWAYS COMPLETE THE SECOND STAGE?

Sleeve gastrectomy

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Introduction:

Super obese patients (BMI>50 kg/m2) are usually considered high-risk patients and represent a handicap for bariatric surgeons. Hypoabsortive procedures are usually indicated, but due to their anthropometric characteristics those procedures are usually challenging. Staged surgery strategy may be an option, but not always is completed. We examined how we performed in those cases.

Methods:

We performed a retrospective review from our prospectively collected database. We included all Sleeve Gastrectomy patients with preoperative BMI over 50kg/m2 who had at least 5 years of follow-up. Weight loss, second surgery (if performed), nadir weight and the reasons for not preforming a second surgery were analyzed.

Results:

We included 140 patients, 92 (65.7%) were women, with a mean age of 42 years old (range 40 to 43). 22 patients completed a Single Anastomosis Duodeno-ileal bypass (SADI-S) (15.7%) and 8 were converted to Roux-n-Y Gastric Bypass due to reflux. 9 patients (6.4%) achieved BMI below 30kg/m2 after 5 years, and 20 (14.3%) BMI<35kg/m2. 72 patients were considered to further analyze due to no conversion and BMI over 35kg/m2 after 5 years.

Out of these 72 patients, 39 (54.2%) presented a medical contraindication; 8 (11.1%) were not considered for second stage due to surgical considerations; 8 patients did not consent a second surgery, and 20 (27.8%) were lost for follow-up.

Conclusions:

Not all patients intended for staged procedures will need a second surgery, a not despicable percentage will achieve long term successful weight loss (BMI<35 Kg/m2). Most of the contraindications for the second procedure are medical, followed by lost of follow-up and surgical. Finally, not all the patients agreed to have a second procedure. Even staged surgery is an accepted strategy in high-risk patients, surgeons and patients must be aware that a second surgery will not always be performed.

P-068

IMPACT OF BASELINE BMI AND ADHERENCE TO FOLLOW-UP ON THE OUTCOME OF SLEEVE GASTRECTOMY IN TREATMENT OF ADOLESCENT OBESITY

Bariatric surgery in children, adolescents and young adults

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Introduction:

Adolescent obesity is considered a public health challenge. Sleeve gastrectomy (SG) may be considered a safe option for treatment of adolescent obesity.

Objectives:

This study aimed to assess the outcomes of SG in treatment of severe obesity in adolescents, with emphasis on the impact of baseline body mass index (BMI) and adherence to follow-up.

Methods:

This was a single-center retrospective cohort study on adolescents with severe obesity who underwent SG at a tertiary referral bariatric center. The main outcome measures were weight loss, improvement in comorbidities at 12 months postoperatively, and complications.

Results:

A total of 72 adolescent patients (47 female) of a mean BMI of 47.9 ± 7.1 kg/ 2 were enrolled in the study. The mean %TWL was 34.94 ± 9.35 and the mean %EWL was 73.47 ± 22.12. Complete remission was recorded in all patients with type 2 diabetes mellitus (DM), pre-DM, and sleep apnea, in 80% of patients with hypertension, and 57% of patients with hypothyroidism. The long-term complication rate after SG was 18%. Patients with higher preoperative BMI had significantly (p = 0.018) lower %EWL at 1 year.

Conclusion:

SG is an effective and safe surgical procedure for adolescents with severe obesity. It was associated with a significant weight loss, high comorbidity remission rates, and no mortality or serious complications. Lower baseline BMI and better adherence to follow-up were associated with better outcome of SG.

P-069

INDICATIONS AND OUTCOMES OF REDO OF ONE-ANASTOMOSIS-GASTRIC BYPASS

Revisional surgery

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Background:

Bariatric surgery is very common nowadays with one-anastomosis-gastric bypass (OAGB) among the most common procedures in the Middle East. In many studies, OAGB has proven to be effective in adequate weight reduction and improving obesity-related comorbidities.

Objective:

To study the indications, possibility and outcomes for revisions and redo of OAGB.

Patients and methods:

We reviewed the files of patients who underwent revision or redo surgery following a previous OAGB in a bariatric center in a university hospital. Data collected included general demographics of the patients, type of the procedure, indications and outcomes of the redo surgery.

Results:

The most common indications for redo surgery were weight regain, GERD or severe weight loss. These patients underwent different revisional procedures, in the form of conversion Roux-En-Y-Gastric bypass, revising the OAGB with limb length change or revising to normal anatomy. Revisional surgery was not associated with further complications or any mortality in the group.

Conclusion and Recommendations:

Considering the fact that OAGB is effective for weight-reduction and metabolic control, and in the presence of feasibility and safety for revisions and redo of OAGB for different indications, OAGB can still be considered an important procedure in bariatric surgery, keeping in mind that it can be revised to normal anatomy or changed to another procedure without significant complications or morbidity.

P-070

INITIAL EXPERIENCE OF ROBOTIC BARIATRIC SURGERY AT AN ACADEMIC MEDICAL CENTER IN THE MIDDLE EAST

Robotic bariatric surgery

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Background:

Robotic surgery is emerging as a new tool in the field of bariatrics. The robotic platform may allow for improved technical precision and increased range of motion. At present, there is limited literature describing robotic bariatric surgery in the Middle East.

Objectives:

This study aims to describe the feasibility and safety profile of robotic bariatric surgery at a new academic medical center in the United Arab Emirates.

Methods:

This is a retrospective review of a prospectively maintained registry of all robotic metabolic procedures performed at our institution. Data was abstracted from June 1st, 2019 to December 31st, 2020. Selection for robotic versus laparoscopic approach was determined by the operating surgeon and patient. Perioperative outcomes were analyzed.

Results:

A total of 58 patients underwent robotic metabolic and bariatric surgery, 55 were primary. Mean age was 33 years (18-63). There were 35 females (64%). At baseline, mean body mass index (BMI) was 42.2 kg/m2 ± 5.67 and median ASA was 3. Comorbidities of patients included 52% with hyperlipidemia, 28% with hypertension, 28% with obstructive sleep apnea and 11% with type 2 diabetes. Of the entire cohort, 46 patients (80%) had a sleeve gastrectomy (SG) and 12 patients (20%) had Roux-en-Y gastric bypass (RYGB). Mean operative time was 144.8 minutes ± 52.7. There were 6 cases of conversion to laparoscopy (10.3%) and no cases of conversion to open. There were no intra-operative complications. Median length of hospital stay was 2 days (range 2-3). Early complications (thirty-day perioperative outcomes) were evaluated in our study. Early complications rate was 6.9% (n=4) which includes one patient who developed an anastomotic leak following RYGB and required the only reoperation of our series. Two patients developed gastro-jejunal anastomotic stenosis and one patient had a pulmonary embolism. There were no deaths within 30 days. No patients were admitted to the ICU postoperatively. Follow up period is 6 months ± 4.3. The mean BMI postoperatively is 33.7 kg/m2 ± 6.3 and mean percent total body weight loss (%TBWL) is 20.3%.

Conclusion:

Robotic bariatric surgery may serve as an additional tool in the treatment of obesity and weight-related comorbidities. Initial outcomes of robotic bariatric surgery program at our institution demonstrate that it can be performed safely with appropriate expertise.

P-071

INTERNAL HERNIA IN SHORT VS STANDARD LENGTH BILIOPANCREATIC LIMB ROUX-EN-Y GASTRIC BYPASS: A REVIEW OF A HIGH-VOLUME CENTER OF 10 YEARS' EXPERIENCE

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

In bariatric/metabolic surgery, Roux-en-Y gastric bypass (RYGB) remains one of the gold standard procedures. Post RYGB internal hernias affect around 4% of patients. It was hypothesized that having a shorter Biliopancreatic (BP) limb would decrease the risk of internal hernia. The aim of this analysis was to see how BP limb length affected the occurrence of internal hernia, regardless of mesenteric defects closure.

Objective:

To review the effect of short compared to standard BP limb on incidence of post RYGB internal hernia.

Methods:

A retrospective analysis of patients who underwent primary laparoscopic RYGB in a teaching university hospital was performed for the period between January 2010 and December 2020. Patients were divided into two groups: those with short BP limb (40-50 cm) without closure of mesenteric defects and those with standard BP limb (80-100 cm) with mesenteric defects closure. The primary outcome was the development of an internal hernia.

Results:

691 cases of primary RYGB have been performed between 2010 and 2020. Of those, 429 patients had standard BP limb and 262 patients had short BP limb group. The overall incidence of internal hernia was 1.3% (n=9). There was no significant difference in the incidence between the two groups (6 patients in standard-limb group [1.39%] vs 3 patients in short-limb group [1.14%], P value= 0.53). Only one patient on each group required bowel resection due to ischemia (odds ratio=0.611). There was no internal hernia-related mortality in both groups.

Conclusion:

In our experience, having a short BP limb did not seem to decrease the incidence of post RYGB internal hernia.

P-072

INTERNAL HERNIA REPAIR WITH CHOLECYSTECTOMY BY LAPAROSCOPY SURGERY WITH ABDOMINAL TUBERCULOSIS AS INCIDENTAL FINDING

Post-operative complications

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Introduction:

Female 32 Years Old

-Clinical File:
- Born And Rise In Mexico City
- Occupation Lawyer
- Marital Status Single

-Pathological Personal History:
- Chronic Diseases: Hypothyroidism For 8 Years In Management With Levotiroxin 50 Mcg Every 24Hrs
- Surgeries: Cesarean Section 8 Years Ago
- Allergies: Denied
- Transfusion: Denied
- Complementary Studies:
- Endoscopy: Hiatal Hernia Type I, 1Cm, Not Complicated, Follicular Gastropathy Of The Body, Duodenum Normal
- Height 1.59
- Initial Weight 125
- Actual Weight 62.1
- Actual Bmi 24.56
- Excess Of Weight 62.05
- Weight Loss 62.90
- % Epp 101.37%
- % Twl 50.32

History Of Present Illness:
- Patient who attended emergency department for evaluation due to abdominal pain of sudden onset, colic, generalized with intolerance to food or water, presenting nausea with vomit, of 2 days of evolution. at home, she self-medicates with unspecified analgesic without presenting improvement.
- Laboratories: Leu 9.2X103Mm3, Hb 14 G/Dl, Hto 43%, Plaq 312X103Mm3, Glucose 82 Mg/Dl, Tgo 22 Ui/L, Tgo 16 Ui/L, Ggt 33 Ui/L, Album 3.9G/Dl, Creat 0.5

We perform laparoscopic cholecystectomy, closure of Petersen's Internal Hernia and take a biopsy of Xanthogranulomatous Tumor

Surgery Findings: Acute lithiasic cholecystitis, uncomplicated Petersen's Hernia, and 3X4 Cm mesenterial Xanthogranulomatous Tumor

She started the feeding in the night after the surgery and was discharged the next day.

Histopathology Results

Diagnostics: Gallbladder:
- Chronic Lithiasic Cholecystitis.
- Rokitansky-Aschoff Sinuses with Pyloric Metaplasia.

Cystic Ganglion:
- » Chronic Granular Adenitis.

Liver:
- Chronic Liver with Portal Inflammation without Necrosis, without Hepatocellular Damage and Periportal Fibrosis Septa with Intact Vascular Relations (Ludwig), Metavir Classification: A2, F2.
- Macrovesicular Steatosis
- Cholangitis
- Cholestasis

Tissue

Xanthogranulomatous Of Mesentery:

- Chronic Xanthogranulatose Inflammation with Langhans-Type Multinucleated Cells (Strongly Suspected Of Lymph Node And Extranodal Tuberculosis)

She receives treatment for tuberculosis for 7 months; currently is free of disease.

https://youtu.be/t8La16dKUEk

P-073

INTRAOPERATIVE DISCOVERY AND MANAGEMENT OF EXOPHYTIC GIST TUMOR DURING ROBOTIC ROUX-EN-Y GASTRIC BYPASS

Bariatric surgery and cancer

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Crozer Chester Medical Center, Upland, United States.

Introduction:

A 45-year-old woman, BMI 46 with a PMH of hypertension, hiatal hernia and GERD who presented for an elective Roux-En-Y gastric bypass surgery. Prior to the procedure her work up included an upper GI series which showed a hiatal hernia.

Objectives:

Our operation started with a transection of the small bowel 60cm from the Ligament of Treitz and a subsequent side to side jejunojejunal anastomosis after measuring 145 cm on the Roux limb. Next our hiatal hernia sac was dissected and repaired. Next, 5 cm from the gastroesophageal junction, the stomach was transected with a stapler to create our gastric pouch. At this point, we noticed a small pedunculated mass on the outside surface of the remnant portion of the stomach. Prior to creating our gastrojejunal anastomosis, a wedge resection with clear margins was conducted of the area of the mass and sent to pathology. The gastrojejunal anastomosis was created and was tested successfully with a methylene blue leak test. The operation was concluded and the patient had an uneventful post-operative course. Our pathology reported showed a 0.5cm GIST with clear margins limited to the muscular layer.

Methods:

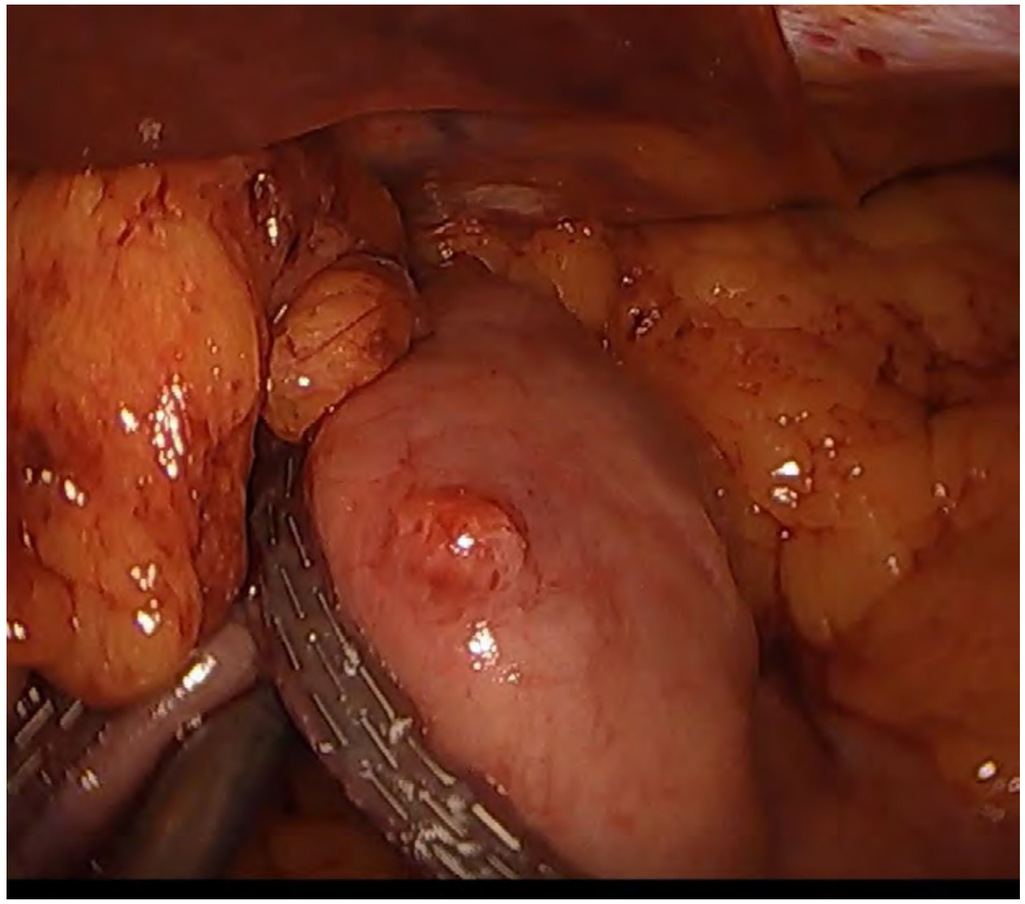
Bariatric surgical procedures are amongst the most commonly performed gastrointestinal operations today. As such, the surgeon has to inspect the stomach intraoperatively for suspicious masses and manage them accordingly. GIST being the most common tumor of the GI tract to arise from mesenchymal origin and with a 50% likelihood of arising on the stomach is something that they are likely to encounter.

Results:

Surgery is the mainstay of therapy for primary GIST tumors with the likelihood of lymphatic metastasis being very low. According to NCCN guidelines, a GIST tumor greater than 2cm should be surgically resected. Management of tumors discovered incidentally that are smaller than 2cm remains controversial. Chiappetta et al study reviewing wedge resection across eight incidentally discovered GIST tumors during bariatric surgery with an average size of 0.66 cm showed a recurrence rate of 0%. Furthermore, Canadian guidelines recommend that GIST tumors smaller than 1 cm should still be resected due to risk of metastasis.

Conclusion:

We chose to perform a wedge resection of our GIST tumor due to the ability to visualize and obtain clear margins at time of surgery and to prevent need for recurrent surgery after marked manipulation of the gastrointestinal tract should the need have arisen in the future.



P-074

INTUSSUSCEPTION AFTER ROUX-EN-Y GASTRIC BYPASS

Post-operative complications

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[2]Department of Translational Medicine / Diagnostic Radiology, Lund University / Skåne University Hospital, Malmö, Sweden.

Introduction:

Roux-en-Y gastric bypass (RYGB) patients with acute abdominal pain are more frequently diagnosed with an intussusceptions on computed tomography (CT) scans than others. These intussusceptions may resolve spontaneously or could cause bowel obstruction. Radiological signs of intussusceptions and their clinical correlation have not been investigated in this population.

Objective:

To correlate radiological findings of intussusception in RYGB patients with clinical outcome.

Setting: University Hospital, Sweden.

Methods:

Acute abdominal CT scans in RYGB patients between 2012-2019 with findings of intussusception were reevaluated by two radiologists with different seniority (>40 years and 1 year) blinded for the clinical outcome. The following factors were assessed: length and location of the intussusception, whether oral contrast passed through, proximal bowel dilatation or signs of internal herniation. Clinical outcome including diagnosis at emergency surgery or discharge were retrieved from medical records.

Results:

Out of 35 CT scans, 29 patients were admitted and 16 patients underwent emergency surgery. Only five surgeries were for intussusception with bowel obstruction (Video). The rest did not require reduction of an intussusception and were for adhesive bowel obstruction (n=2), internal herniation (n=2), surgery to prevent intussusception recurrence (n=4), unremarkable laparoscopy (n=2) and one cholecystectomy. The intussusception length was significantly longer for intussusception causing bowel obstruction for both radiologists (p=.014 and p<.001; Figure). Using a threshold of 100 mm, the sensitivity and specificity were 80% and 93% for radiologist OE and 100% and 86% for radiologist DL. The negative predictive value was 96% and 100%. Proximal bowel dilatation also predicted intussusception causing bowel obstruction (p=.001 and p=.044) and bowel obstructions of any cause (p=.041 and p=.035).

Conclusion:

This study shows that a CT finding of an intussusception longer than 100mm (Picture) in RYGB patients is an easy and useful sign indicating obstruction that may require emergent surgery and that proximal bowel dilatation is a general indicator of bowel obstruction requiring surgery. These signs can facilitate the clinical decision-making in RYGB patients with abdominal pain and CT findings of an intussusception.

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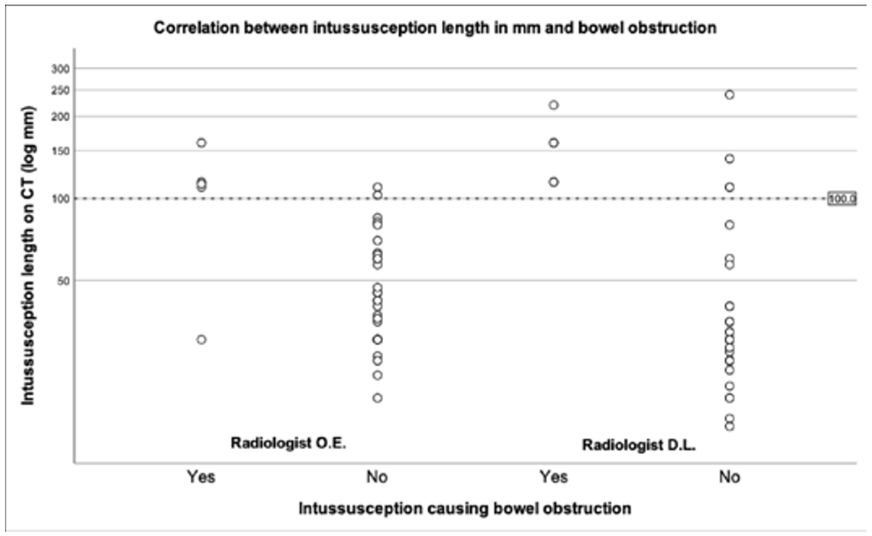

P-075

KNOWLEDGE OF BODY MASS INDEX AND ITS CORRELATES AMONG THE PATIENT AT A TERTIARY CARE HOSPITAL

Integrated health

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Background:

In spite of the numerous chronic diseases that have been linked to obesity, studies focusing on awareness regarding Body mass index (BMI) and its correlates to prevent and control obesity are lacking in the literature, especially in developing countries such as India, where obesity is culturally accepted and nurtured in the society.

Methods:

A cross-sectional prospective survey was done between November 2018 and November 2019 in a tertiary care research institute after approval from institutional ethics committee. A pre-designed questionnaire was used to collect data in excel sheet (Microsoft Corp, Redmond, WA) and analysed using SPSS.

Results:

Total 264 (80.3% urban and 19.7% rural background) patients with mean age of 42 years with different educational level participated in the study. 1.1% patients were underweight, 2.7% mean BMI of studied population was 34.76. BMI distribution curve was bilaterally symmetrical. No one in the study population was well aware of about the BMI and related comorbidities. 98.5% patients confirmed that their doctor had never discussed their BMI with them.

Conclusion:

There is a significant gap of knowledge among patients regarding obesity and BMI, and physicians also have to take initiatives to discuss about this for primary control of the disease (obesity) and related comorbidities.

Keywords: Obesity, BMI, Knowledge, Patient education as topic, Awareness

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P-076

LAPAROSCOPIC ADJUSTABLE GASTRIC BAND (LAGB) WITH RESULTANT MEGAESOPHAGUS CAUSING CARDIAC COMPRESSION

Adjustable gastric banding

R. De Silva[1], M. Pham[2], M. Devadas[3].

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Background:

Oesophageal dilatation following LAGB is a well described complication reported in up to 80% of LAGB patients [1]. Severe oesophageal dilatation in addition to aperistalsis is known as megaesophagus [2]. Symptomatic cardiac compression from oesophageal dilatation as a complication of LAGB is an extremely rare complication.

Objectives:

The authors present a case of symptomatic megaesophagus which occurred four years after LAGB.

Methods:

PE was a 57-year-old smoker who was referred with dyspnoea, a positive stress-ECG test, and nocturnal symptoms of water brash, reflux and paroxysmal coughing. He had undergone a LAGB four years previously, achieving 76.8% excess weight loss from 159kg (BMI 51.3) to 96kg (BMI 30.9). As part of his cardiac assessment a Computed Tomography (CT) coronary angiogram study was performed which incidentally demonstrated a large fluid filled oesophagus causing partial compression of the left atrium. Barium swallow, CT chest and abdomen (figure 1), and transthoracic echocardiogram (TTE) further confirmed a 7.1cm dilated oesophagus and a slipped band causing outlet obstruction.

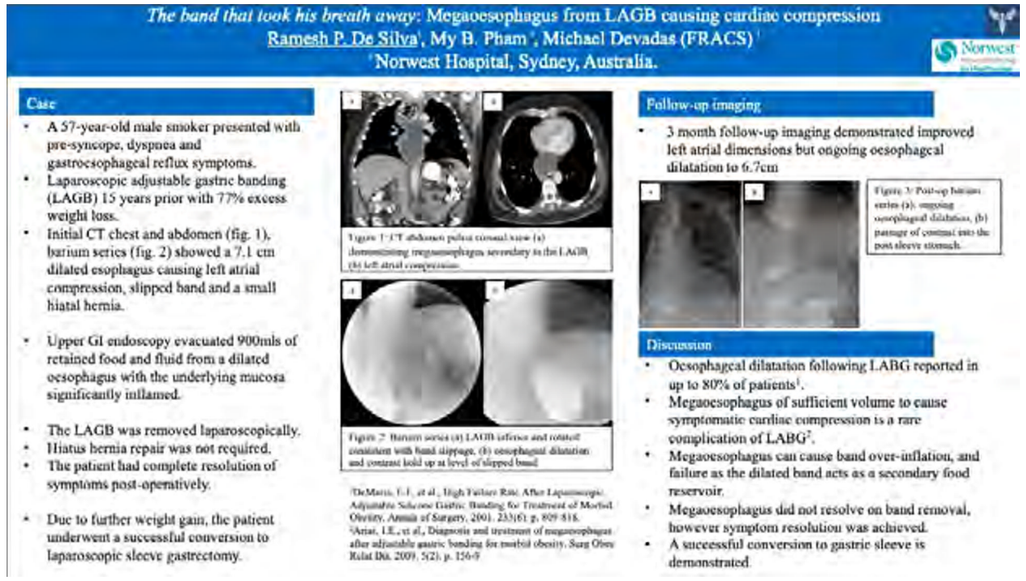
Results:

The LAGB was removed laparoscopically without complication. Intraoperatively, capsulotomy was performed with immediate distension of the distal stomach once the band was removed, indicating a significant degree of obstruction. There was no significant associated hiatus hernia. Three months postoperatively PE reported complete resolution of his symptoms. Repeat TTE showed improved left atrium dimensions. Interestingly, postoperative barium swallow study demonstrated ongoing oesophageal dilatation at 6.7cm and relative dysmotility but with timely passage of barium into a non-distended stomach (figure 2). PE had unfortunately gained 17kg (112.8kg, BMI 36.4), and underwent an uncomplicated laparoscopic sleeve gastrectomy.

Conclusion:

Megaesophagus of sufficient volume to compress the left atrium causing dyspnoea is a rare complication of LAGB, which in itself is now only employed in limited contexts. We believe megaesophagus is an under-reported complication and leads to band overinflation and failure as the dilated oesophagus acts as a secondary reserviour for food. Preoperative oesophageal manometry has a limited predictive value in identifying patients at risk of oesophageal dysmotility following LAGB [3]. Removal of the gastric band led to symptom resolution in our case and can be followed with more durable bariatric procedures.

https://www.youtube.com/watch?v=sNNM45U2XuM



P-077

LAPAROSCOPIC BANDED SLEEVE GASTRECTOMY: SINGLE-CENTRE EXPERIENCE

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy (LSG) is now the most common bariatric procedure to treat morbidly obese patients. The main concern of LSG lies in the long-term weight regain which is reported to happen in up to 75.6% of patients after 6 years. Here we report our overall experience with Laparoscopic Banded Sleeve Gastrectomy (LBSG) using the Minimizer ring over a six-year period.

Objectives:

All patients submitted to primary LBSG were examined.

Methods:

Patients were submitted to LBSG between February 2014 and January 2021. Collected data included demographic factors, preoperative BMI, operative time, surgical complications, and clinical outcomes.

Results:

462 patients were submitted to primary LBSG in the study period. There were 280 females and 182 males with a median age of 45.0 years (range, 18 to 65 years). Median preoperative BMI was 40.4 kg/m2 (range, 36,2 to 67,5 kg/m2). Median operative time was 68.0 minutes (range, 40 to 142 minutes). Median time for ring placement was 7.0 minutes. Median post-operative hospital stay was 2.7 days. 7 major complications occurred in the post-operative period: 5 gastric leaks and 2 major bleedings (0.9%). There was no post-operative mortality in the 462 patients. Long-term major complications occurred in 4 patients. Median follow-up was 52.2 months (range, 2 to 84 months). Median post-operative BMI was 28.6 kg/m2 (range, 21 to 46 kg/m2). Median %excess weight loss (%EWL) at 1 year after surgery was 53.0%. Median %EWL at last follow-up visit was 66.0%.

Conclusions:

LBSG is as safe as standard LSG with excellent results in terms of post-operative morbidity and weight loss outcomes. Whether this procedure may result superior to standard LSG in the long-term period needs to be evaluated in randomized trials.

P-078

LAPAROSCOPIC BIKINI LINE SLEEVE GASTRECTOMY

Sleeve gastrectomy

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Background/Introduction:

Among various bariatric procedures, laparoscopic sleeve gastrectomy (LSG) became one of the most frequently performed surgeries for treatment of morbid obesity. The procedures become less invasive as the size of ports is reduced, while maintaining the extent of surgery and maintaining patients satisfaction with cosmetic results. It is advisable to take cosmetic results into consideration in the field of bariatric surgery as much as possible, as most patients are not happy with their scar's appearance, most of them adopt different coping behaviours to hide or compensate them. The ports during the bikini line sleeve gastrectomy (BLSG) are placed at the lower abdomen in order to make the port scars aesthetically acceptable. The patients feel less pain after the bikini line sleeve gastrectomy, although this requires more data to make final conclusions. The purpose of this report is to describe our initial experience of the BLSG operation.

Objectives/Results:

We used inclusion criteria to find suitable patients for this bariatric surgery technique. The criteria includes the following: the height up to 170 cm, the body mass index (BMI) between 35 and 50 kg/m2, no large hiatal hernia, no previous upper abdominal surgery, and respectively xiphoid- umbilicus, xiphoid-symphysis pubis, and xiphoid-anterior superior iliac spine distances are less than 25, 36, and 33 cm

The patient supine in split leg position and properly secured to the operating table with the use of special braces in the lower limbs. The angle of leg splitting was slightly different compared to classic laparoscopic sleeve gastrectomy. In BLSG, the left leg is more straight, compared to the right leg, because of the smaller angle the surgeon achieves better ergonomy during suturing phase. The main surgeon was positioned between the patient's legs, the assistant on the main surgeon's right, while the scrub nurse on his left side. The patient was placed in the flat position and then 45-degree reverse Trendelenburg once ports have been placed.

The bikini sleeve gastrectomy involves the same three phases as classic laparoscopic sleeve gastrectomy, such as gastric mobilization, stapling, and suturing phases.

Conclusion:

The surgical technique of BLSG is safe and effective if performed correctly. The mean operative time performing bikini line sleeve gastrectomy is close to standard sleeve gastrectomy.

P-079

LAPAROSCOPIC BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH VERSUS LAPAROSCOPIC SINGLE-ANASTOMOSIS DUODENAL-ILEAL BYPASS WITH SLEEVE GASTRECTOMY FOR THE TREATMENT OF OBESITY AND ITS-RELATED METABOLIC DISEASES: EXPERIENCE FROM CHINA

Duodenal switch procedures, including single-anastomosis DS

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Background:

The number of biliopancreatic diversion with duodenal switch (BPD/DS) and single-anastomosis duodeno-ileal bypass with sleeve gastrectomy(SADI-S) performed by bariatric surgeons in China is very small. There is the first paper to compare the effect and safety between BPD/DS and SADI-S in China.

Objective:

To compare the effect and safety between laparoscopic BPD/DS and laparoscopic SADI-S for the treatment of obesity and its-related metabolic diseases in Chinese patients with morbid obesity.

Methods The clinical data of 33 patients with obesity who treated with BPD/DS or SADI-S from October 2018 to January 2020 were analyzed retrospectively. The weight loss, remission rate of obesity-related metabolic diseases, nutritional deficiency and surgical complications in the first postoperative year between the two groups were compared respectively.

Results:

The demographic data between the two groups are shown in table. All patients underwent successfully laparoscopic bariatric surgery without conversion to laparotomy or death. The mean operative time in the BPD/DS group was significantly higher than that of SADI-S group [(253.64±28.03)min VS (204.77±38.28)min,P<0.05].There was no significant difference in postoperative hospitalization time between the two groups(P<0.05). The rate of complication in the BPD/DS group was significantly higher than that of SADI-S group(P<0.05)(Shown in table 2).The body weight and body mass index of BPD/DS group and SADI-S group decreased significantly compared with that of preoperative, respectively(P<0.05).There was no significant difference in body weight and body mass index in the first postoperative year between the two groups[(76.84±14.54)kg VS (75.61±13.09)kg,P<0.05; (25.33±4.81)kg/m2 VS (25.63±3.85)kg/m2,P<0.05].There was no significant difference in percent of excess weight loss and percent of total weight loss in the first postoperative year between BPD/DS group and SADI-S group[(99.65±34.86)% VS (92.57±20.09)%,P<0.05; (43.87±8.15)% VS (42.90±6.75)%,P<0.05].Both BPD/DS and SADI-S had a very high remission rate on hypertension, hyperuricemia, type 2 diabetes mellitus and dyslipidemia, and there was no significant difference between the two groups.

Conclusion:

Laparoscopic BPD/DS and laparoscopic SADI-S had an excellent and similar effect in Chinese patients with obesity and its-related metabolic diseases. But the latter is safer.

Keywords: Biliopancreatic diversion with duodenal switch, Single anastomosis duodenal-ileal bypass with sleeve gastrectomy, Laparoscopy, Obesity, Metabolic diseases

Table 1 Patient demographic data between BPD/DS group and SADI-S group

	N	Sex Male Female	Age (years)	weight (kg)	BMI (kg/m2)	Hypertension	Hyperuricemia
BPD/DS group	11	7 4	32.27±8.30	137.91±21.42	45.80±9.25	11	8
SADI-S group	22	9 13	34.36±13.17	133.78±25.08	45.49±6.78	20	12
P		0.282	0.635	0.644	0.912	0.542	0.456

*BMI:body mass index; T2DM: type 2 diabetes mellitus; TC: total cholesterol;
TG: triglycerides;LDL:low density lipoprotein

Table 2 Operation related situations between BPD/DS group and SADI-S group

Operation related situations	BPD/DS group (n=11)	SADI-S group (n=22)	*P*
Operative time (min)	253.64±28.03	204.77±38.28	0.001
Postoperative hospitalization time (d)	11.73±10.09	8.05±2.13	0.745
Bleeding	9.1% (1/11)	0	
Anastomosis leakage	9.1% (1/11)	0	
Anastomosis obstruction	9.1% (1/11)	0	
Deep venous thrombosis	0	4.5% (1/22)	
Chronic anaemia	9.1% (1/11)	0	
Chronic liver parenchyma damage	9.1% (1/11)	0	
Total incidence of complications	45.5% v5/11)	4.5% (1/22)	0.01

P-080

LAPAROSCOPIC LOOP DUODENAL-JEJUNAL BYPASS WITH SLEEVE GASTRECTOMY VERSUS ROUX-EN-Y GASTRIC BYPASS: ONE YEAR FOLLOW-UP RESULT

Duodenal switch procedures, including single-anastomosis DS

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Soonchunhyang University Seoul Hospital, Seoul, Republic of Korea.

Background:

The aim of this study was to compare the postoperative course of DJB-SG and Roux-en-Y Gastric Bypass (RYGB) during the 1-year follow-up period.

Methods:

We conducted a retrospective review of the electronic medical records of all patients who underwent DJB-SG and RYGB between March 2019 and December 2019 at a single institution. Operative time, length of postoperative stay, postoperative complications, readmission, and reoperation rate was assessed for evaluating the safety of surgery and percentage of total weight loss (%TWL), percentage of excessive weight loss (%EWL) and co-morbidities resolution such as type 2 diabetes mellitus (T2DM), hypertension, and dyslipidemia was investigated for evaluating the efficacy.

Results:

Among 37 patients who underwent DJB-SG and RYGB, 24 patients (8 patients undergoing DJB-SG and 16 patients undergoing RYGB) who completed 1 year follow-up were enrolled. Operative time was 272.6 ± 41.9 minutes in DJB-SG and 266.1 ± 61.2 minutes in RYGB (p=0.790). The length of postoperative stay was 4.6 ± 3.0 days in DJB-SG and 3.2 ± 0.6 minutes in RYGB (p=0.241). Major early and late complication was 1 (12.5%) and 0 patients in DJB-SG 0 and 1 (6.2%) in RYGB (p=0.718 and p=1.000), respectively. There were also no significant differences in readmission rate (3 patients (37.5%) in DJB-SG and 3 patients (18.8%) in RYGB, p=0.617) and reoperation rate (0 patients (0%) in DJB-SG and 1 patient (6.2%) in RYGB, p=1.000). %TWL was 29.1 ± 7.2% in DJB-SG and 27.7 ± 6.6% in RYGB (p=0.642). %EWL was 66.0 ± 23.0% in DJB-SG and 71.1 ± 23.5% in RYGB (p=0.618). The remission rate of T2DM, hypertension and dyslipidemia were 100%, 83.3%, and 33.3% in DJB-SG and 66.7%, 45.5%, and 28.6% in RYGB (p=0.277, p=0.254, and p=1.000), respectively.

Conclusion:

DJB-SG is comparable to RYGB in surgical outcomes for 1 year follow-up.

Keywords: Sleeve gastrectomy; Duodeno-jejunal bypass; Roux-en-Y gastric bypass; Morbid Obesity.

P-081

LAPAROSCOPIC MANAGEMENT OF ENTEROCUTANEOUS FISTULA DUE TO PORT SITE RICHTER'S HERNIA FOLLOWING GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Background:

With increasing numbers of laparoscopies in bariatric surgery more post-operative hernias are expected. Richter hernias (RH) are a herniation of the intestine's antimesenteric border through fascial defect. Although the incidence of trocar site hernias is 0.5%, RH are rare. This condition is associated with a high risk of intestinal ischemia or perforation with the secondary formation of an enterocutaneous fistula (ECF). RH are deceptive because the intestinal lumen may remain permeable, causing insidious gastrointestinal symptoms rather than bowel obstruction.

Objectives:

We present a case of enterocutaneous fistula due to port site Richter's hernia following Roux-en Y gastric bypass successfully managed laparoscopically.

Methods:

A 47-year-old female with BMI of 40 Kg/m2 and metabolic syndrome underwent laparoscopic Roux-en-Y gastric bypass with 5 trocars, stapled anastomosis performed with EEA 25mm introduced through the left midclavicular port site. All port sites greater than 12mm were closed with vicryl 1/0 sutures. Postoperative period was uneventful and patient was discharged on 2nd postop day tolerating fluid diet. Two days later patient presented to emergency department complaining of nausea and edema and purulent discharge from the umbilical port. The first impression was a skin abscess, however few hours after she discharged the food she had eaten from the same port. CT-abd scan demonstrated the Roux limb entrapped in the umbilical port site wound diagnosing an enterocutaneous fistula.

Results:

Patient was taken for laparoscopic exploration which confirmed an anti-mesenteric border loop of Roux limb herniation through the dehisced umbilical port site wound. The loop was reduced and found a small perforation. The umbilical port was closed by suture passer with interrupted prolene 1/0 stitches and the limb was repaired with simple suture. Postoperative period was uneventful and patient was discharged on day 7 with clean and granulating wound. Outpatient follow-up at month 8, the patient continues asymptomatic, adequate surgical scar and 64%, 27% and 28 Kg/m2 of %EWL, %TWL and BMI, respectively.

Conclusion:

Enterocutaneous fistula due to port site Richter's hernia following gastric bypass is a very uncommon entity. Despite adequate port site closure some patients might develop hernias and further comorbidities. Repair of enterocutaneous fistula from a Richter hernia following RYGB could be done laparoscopically.

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P-082

LAPAROSCOPIC ONE ANASTOMOSIS GASTRIC BYPASS WITH SIMULTANEOUS LAPAROSCOPIC CYSTOGASTROSTOMY IN A PATIENT WITH MORBID OBESITY AND A PANCREATIC PSEUDOCYST: CASE REPORT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

E. Martinez Rodriguez, M. Sánchez-Muñoz, C. Moreno-Mendoza, I. Camba-Gutiérrez, J. Álvarez-Ortiz, A. Valencia-Gómez, J. Reyes-Blandón, M. Aldana-Aguiñaga, C. García-González.

Unidad de Cirugía Bariátrica y Metabólica, Hospital Civil de Guadalajara Dr. Juan I. Menchaca, Guadalajara, Mexico.

Introduction:

Pancreatic pseudocyst account for two-thirds of all pancreatic cystic lesions, developing as a complication in patients with a history of acute or chronic pancreatitis. Obesity is a chronic disease, and bariatric surgery has been undoubtedly established as the most effective procedure for inducing sustained long-term weight loss among obese patients.

Methods:

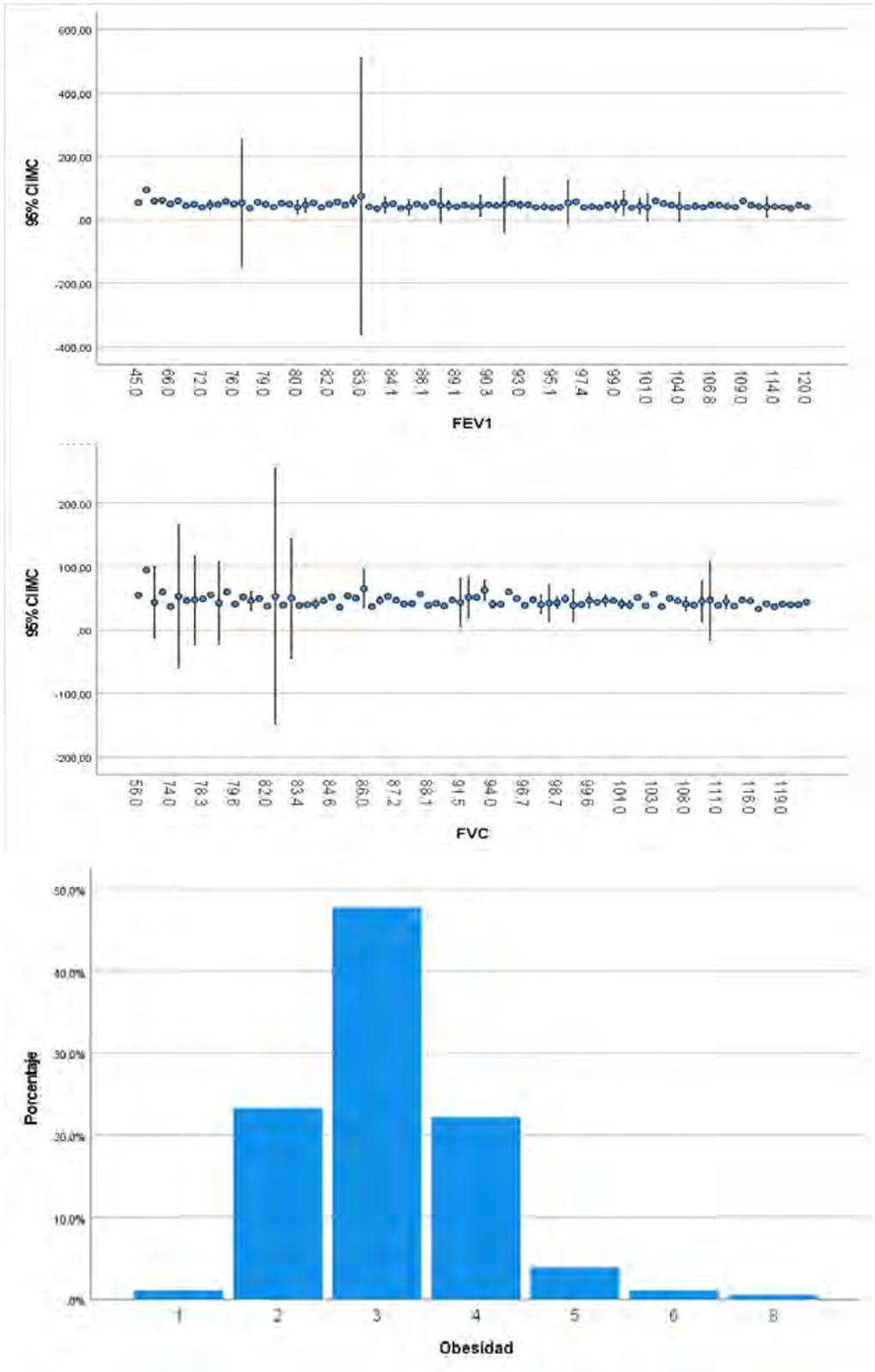
Female patient with a diagnosis of morbid obesity with an initial weight of 126 kg, who had a history of acute pancreatitis of biliary origin in whom a pancreatic pseudocyst was found in a CT scan. A surgical procedure consisting of cholecystectomy, one anastomosis gastric bypass (OAGB) and cystic-gastric anastomosis with the native stomach was performed. One year after surgery, the patient was asymptomatic, with a nadir weight of 72 kg, an excess weight loss of 80% and no tomographic evidence of pancreatic pseudocyst recurrence.

Results:

A retrospective analysis, which enrolled 7,060 patients hospitalized for pancreatic pseudocyst, revealed that cyst drainage and cystic-gastric anastomosis by laparoscopic approach are associated with fewer complications in the short term than the open approach. These findings can be of great value in the context of a bariatric surgery as an alternative for the resolution of this complication combined with the benefit of sustained weight loss and long-term resolution of other concomitant comorbidities. Gastric Anastomosis Bypass (OAGB) is a procedure that has shown good results in terms of weight loss and long-term metabolic improvement.

Conclusion:

A laparoscopic cystic-gastric anastomosis in combination with a one anastomosis gastric bypass is technically feasible in a patient with a pancreatic pseudocyst who is also morbidly obese.



P-083

LAPAROSCOPIC REPAIR OF A GASTRO GASTRIC FISTULA AFTER ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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[1]Hospital Christus Muguerza Alta Especialidad, Monterrey, Mexico; [2]Christus Muguerza Hospital Conchita, Monterrey, Mexico.

We report the case of a 26-year-old female with a history of gastric bypass and cholecystectomy by laparoscopy 9 years ago. Upper GI endoscopy reported gastrointestinal fistula adjacent to anastomosis, towards blind loop. On admission, vital signs were stable, BMI 37.73 kg/m2. Asymptomatic.

The gastric bypass was revised and reconstructed by laparoscopy with gastric remnant of 15 mL, new 40 cm food loop anastomosis, 145 cm biliopancreatic loop and 410 cm common loop, jejuno-jejunal anastomosis and closure of the enterotomy, verifying tightness with methylene blue, blake drainage was placed.

The postoperative course was satisfactory and the patient was discharged without any eventuality.

This case highlights the importance of an adequate history and physical exam, together with good clinical judgment in order to prevent possible complications that can arise in the setting of an undiagnosed gastro gastric fistula.

https://vimeo.com/723112113/e9ce83a12d

P-084

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS - A PROCEDURE FOR RESIDENTS?

Bariatric training

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Background:

In Austria residency in surgery takes 6 years. The list of mandatory surgical procedures features at least 15 stomach surgeries and 10 small intestine surgeries. At minimum 20% must be performed in laparoscopic technique.

Due to common use of antacids, elective and acute stomach surgery has become rare. In contrast, the numbers in bariatric surgery increase. Our preferred procedure is the laparoscopic Roux-en-Y gastric bypass (RYGB). A stomach pouch is built and 2 anastomoses according to a Billroth II operation have to be performed. Laparoscopic sutures and staple lines require relevant skills.

Objectives:

This paper's aim is to prove that procedures on the upper gastrointestinal tract can be performed reliably and accurately by residents.

Methods:

We prospectively collected data for 3 years and evaluated the results afterwards. Assessed parameters were operation length, complications, and days of postoperative hospitalization. The residents' results were compared to the specialists' outcome.

Results:

At our department, 671 patients (Ø 40yrs) underwent bariatric surgery from 1.1.2018 to 31.12.2020. 97 (14,5%) procedures were performed completely by residents. There was no screening for BMI (Ø 44kg/m²) or comorbidities (Ø ASA 3) in advance. Residents took longer (Ø 92,6 vs. 78,3 minutes), but there was no significant difference in complications (using Clavien-Dindo classification), hospital stay (Ø 5d) or postoperative outcome for 30 days. These findings applied to primary surgery and revisional procedures.

Conclusion:

Laparoscopic RYGB is well suited to improve skills in complex surgery on the upper gastrointestinal tract, despite morbid obesity. Metabolic-bariatric surgery is supposed to be considered a meaningful part in training, due to the lack of common gastric surgery.

P-085

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS AFTER BAND AND GASTRIC PLICATION

Revisional surgery

A. Morales Cardona[1], A. Palomares Leal[1], S. Arana Garza[2], X. Hernández-Morales[1], D. Abarca Carrillo[2], J. Pérez-Macías[1].

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We presented a case of a 38-year-old male with a history of Arterial Hypertension, moderate hepatic steatosis, gastric banding eight years ago and gastric plication four years ago. He underwent on surgical treatment. On admission he presented stable vital signs and BMI of 41.05 kg/m2.

Transoperative upper GI endoscopy was performed showing fibrous tissue related with surgical history. A new gastric remnant was performed with partial gastrectomy, gastro-jejunal and jejuno-jejunal anastomosis.

This case highlights the importance of an adequate history and selection of the right surgical procedure for each patient in order to prevent possible complications.

https://vimeo.com/723485951/6e8f49aaf3

P-086

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS AFTER RESTRICTIVE PROCEDURES

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Laparoscopic revisional RYGB is common after restrictive procedures but challenging with variable outcomes.

Objectives:

To present the techniques and operative outcomes for the revisional laparoscopic RYGB after restrictive procedures.

Methods:

A retrospective review of all clinical data of the patients who had revisional laparoscopic RYGB of one surgeon over ten years period.

Results:

From 1st of January 2009 to 31st of December 2020 the total case of revisions were 274 patient of who 80 patients had revisional laparoscopic RYGB after restrictive procedures: VBG 31 patients, LSG 18 patients AGB 28 patients, and LGGCP 3 patients. The main indication for revision is weight regain/failure to lose weight. 52 patients, 19 patients had weight regain and complications, and 9 patients had complication of primary procedure. Two cases were converted to open after open VBG. No mortality. Two patients had leak after VBG and after AGB. Four patients needed to have blood transfusion.

Conclusions:

Laparoscopic RYGB after restrictive procedure is feasible and safer with acceptable range of complication rates.

P-087

LAPAROSCOPIC SLEEVE GASTRECTOMY AS A PRIMARY PROCEDURE FOR MORBID OBESITY: A SEVEN YEARS EXPERIENCE OF A BARIATRIC GROUP

Sleeve gastrectomy

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Introduction:

Bariatric surgery has a great impact in patients suffering from obesity and related comorbidities by improving quality of life, due to the reduction of excess body weight and the control of associated pathologies. Laparoscopic sleeve gastrectomy [LSG] has been the most frequent procedure performed in Nicaragua since 2006 with encouraging results. Now, after seven years of experience with this procedure, we present the results of our bariatric surgical team

Objectives:

To present our results of the 7-years follow-up in post-surgical (PostS) patients with morbid obesity who underwent LSG.

Methods:

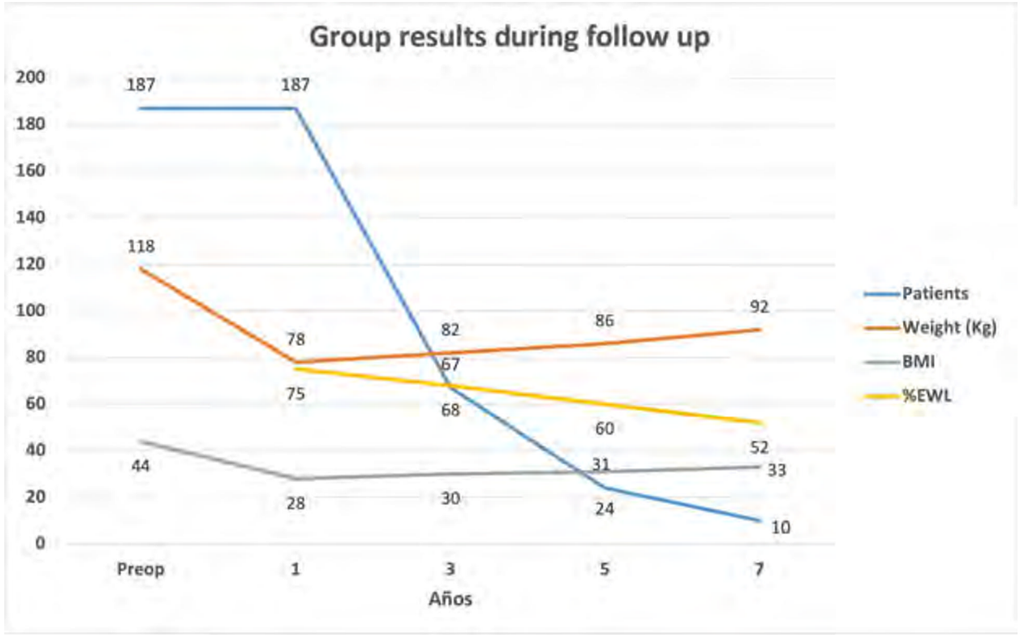
We retrospectively reviewed 187 cases between january 2012 and january 2019, at Hospital Vivian Pellas, who underwent LSG with follow up at 1, 3, 5 and 7 years after surgery. Variables taken into account were age, Pre and PostS weight, Pre and PostS Body Mass Index (BMI), percentage of Excess Body Weight Lost (%EBWL), comorbidities resolution and complications.

Results:

A total of 187 patients underwent LSG due to obesity and related comorbidities during this period of time. Of the 187 patients, 67 continued follow-up at three years, 24 for five years and 10 patients at seven years. The mean preoperative age, weight and BMI was 40 years, 118 kg and 44 kg/m2 respectively. The most frequent comorbidities were arterial high blood pressure (95%), type 2 diabetes (87%) and dyslipidemia (70%). Follow up after 1, 3, 5, and 7 years post LSG showed a post BMI of 28 kg/m2, 30 kg/m2, 31 kg/m2 and 33 kg/m2 respectively. The % EBWL during the same period of time, 1, 3, 5 and 7 years after the procedure was 75%, 68%, 60% and 52% respectively. Resolution or improvement of comorbidities were up to 75% for DM2, 73% for dyslipidemia and 70% for arterial high blood pressure. Six early complications and one long term complication were presented (3.7% complication rate), being the most frequent of the leaks, in three patients. A gastric stenosis was presented as the late complication after seven years follow up, which was resolved by performing a one anastomosis gastric bypass. No mortality was observed during the reviewed period of time.

Conclusion:

Our study showed that LSG is a safe and feasible procedure, with very good results on weight reduction and comorbidities control even after seven years of follow up.



Preoperative data	Min	Med	Max
Age (years)	18	40	66
Weight (Kg)	81.0	118.0	188.6
BMI (kg/m²)	32.0	44.0	72.1

Comorbidities	Before %	Resolution %
High blood pressure	92	70
Diabetes	87	75
Dyslipidemia	70	73

Complications	Nr.
Leaks	3
Acute	2
Early	1
Bleeding	2
Gastric stenosis	1
Abdominal wall abscess	1

P-088

LATE GASTROJEJUNAL STENOSIS

Revisional surgery

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Introdução:

Paciente 44 anos, submetida à gastroplastia a By-pass em outra unidade hospitalar, evoluindo com aumento da perda ponderal e intolerância alimentar para sólidos e líquidos após 2o meses de sua cirurgia. Paciente atualmente com IMC de 19 Kg/m2 e fibromialgia. Realizou Vídeo-endoscopia alta que evidenciou estenose importante de anastomose gastro-jejunal. Realizado Dilatação endoscópica com balão dilatador com 8 cm, com melhora clínica parcial. Realizado 2a Vídeo-endoscopia após 30 dias, com regresso da estenose, tendo sido realizada nova dilatação e programada cirurgia revisional.

Realizado laparoscopia revisional com realização de lise de aderências e dissecção com ressecção de anastomose gastrojejunal e nova confecção de anastomose gastrojejunal calibrada com sonda finches 32 e realização de Vídeo-endoscopia alta per- operatória com identificação de anastomose permeável e sem complicações.

P-089

MANAGEMENT OF ABDOMINAL PAIN UP TO 5 YEARS AFTER BARIATRIC SURGERY

Endoscopic and percutaneous interventional procedures

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Background/Objectives:

Several studies have described the management of acute abdominal pain in the first 30 days after bariatric surgery, in particular the concern of complications such as internal hernias. The aim of our study was to determine the incidence and cause of abdominal pain for those presenting beyond this initial period.

Method:

This observational study involved retrospective review of consecutive patients who had undergone bariatric surgery between January to June 2015 in our unit, with end of follow up defined as 5 years after surgery. The primary outcome was the timing of the first presentation with abdominal pain as either early (within 30days) or late (beyond 30 days). Secondary outcomes included the result of investigations, complications and interventions. Demographics, comorbidities, and type of procedure (LSG – Laparoscopic Sleeve Gastrectomy, LRYGB – Laparoscopic Roux-en-Y Gastric bypass) were compared between those presenting early, late, and those who did not present with this complaint ($p < 0.05$).

Results:

Over this period, 77 LRYGB and 17 LSG were carried out. In total eight patients (8.5%) (LRYGB n=6, LSG n=2) complained of abdominal pain over the five-year period. Of these, three patients presented early (1x LSG, 2x LRYGB), all as an emergency. The remaining 5 patients (1x LSG, 4x LRYGB) presented between 7 and 46 months after surgery, with only one as an emergency (LRYGB). The remainder were referred to our clinic. All patients underwent at least one CT scan and a barium swallow, with an OGD carried out for two of the three patients in the early group (leak confirmed on OGD).

Two of the three early patients were managed with a re-operation (1x subphrenic collection after bypass and 1x sleeve leak), following investigations which suggested these complications. Of the late presentations, three LRYGB patients underwent a re-laparoscopy, of whom 2 had an internal hernia defect. No cause was found for the other. The remaining two patients of the late group were successfully managed conservatively. There was no significant difference in the age, gender, type of procedure or comorbidities between the timing of presentation, or those without presenting with this symptom.

Conclusions:

Abdominal pain within 30 days should alert the clinician of a possible complication that requires an urgent intervention. Therefore, patients should be made aware they may experience pain for the first time many years after surgery.

P-090

MANAGEMENT OF GALLSTONES IN BARIATRIC SURGERY, CASE OF GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Introduction:

Obesity leads to an increase in the production and secretion of cholesterol and hence the formation of stones. With the procedures we do, patients lose weight significantly and quickly.

Hence, changes occur in the composition of the bile and these changes favor the occurrence of lithiasis. The surgeon as well as the patient must be aware of the risk of developing biliary problems after bariatric surgery.

Method:

In this talk we review the literature on the topic of gallstones, indications for cholecystectomy, prevention of gallstones after gastric bypass, and treatment of gallstones after gastric bypass.

Results and Conclusions:

The risk of gallstones after bariatric surgery is real but that is not why it will be symptomatic. A systematic cholecystectomy should not be performed if there is no symptomatic lithiasis and the use of urso deoxycholic acid has not been demonstrated to prevent the occurrence of gallstones.

P-091

MANEJO DE FÍSTULA CRÓNICA COMPLEJA MÁS INTUSUSCEPCIÓN INTESTINAL EN UN PACIENTE CON BYPASS GÁSTRICO EN Y DE ROUX: REPORTE DE CASO

Cirugía revisional

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Introducción:

La intususcepción intestinal es una de las complicaciones más raras en los pacientes con bypass gástrico. Afecta a menos del 1% de los pacientes que se presentan con obstrucción intestinal. Ocurre casi exclusivamente a nivel de la yeyuno yeyuno anastomosis.

Todos los casos de intususcepción intestinal posterior a by-pass gástrico parecen ser de forma retrógrada, y casi todos los casos involucran a la yeyuno yeyuno anastomosis.

Clínicamente los pacientes se presentan con dolor abdominal vago. Ya que la presentación clínica es indistinguible de las causas más comunes de obstrucción intestinal, la realización de una tomografía simple de abdomen es mandatoria, en la que se puede observar el signo de la diana, el cual es patognómico. Existen tres tipos de manejo. El primero consiste en la reducción manual de las asas. El segundo se acompaña de enteropexia. El tercer manejo puede ser realizando resección de los segmentos con intususcepción.

La presencia de una fístula gastroyeyunal como en caso de nuestra paciente es una presentación muy poco frecuente en pacientes postoperados de by pass gástrico, por lo que se decidió presentar este caso

Objetivos:

Describir la presentación y diagnóstico, así como el manejo quirúrgico en un paciente con dolor crónico quien presentaba una fístula gastroyeyunal además de una intususcepción intestinal con antecedente de Bypass gástrico

Metodos:

Femenina de 47 años, antecedente de manga gástrica, colecistectomía laparoscópica, cirugía de revisión con conversión a by pass gástrico en Y de Roux. Acude con presencia de dolor crónico de 7 años de evolución, exacerbado 1 semana previa, cambios en el hábito intestinal, así como reflujo de novo. Se realiza TAC simple de abdomen, así como endoscopia superior, encontrándose reflujo biliar, así como la presencia en la TAC de del signo de la diana, por lo que se diagnostica una fístula gastroyeyunal así como una intususcepción intestinal, y se decide realizar laparoscopia diagnóstica.

Resultados:

Se realiza laparoscopia diagnóstica, encontrando la presencia de una fístula gastroyeyunal, se realiza fistulectomia con cierre primario del pouch, así como enteropexia de la anastomosis. La paciente permaneció en ayuno durante 48 hrs, iniciando dieta líquida con buena evolución

Conclusion:

La intususcepción intestinal, así como las fístulas en cirugía bariátrica son complicaciones poco frecuentes y más infrecuente aún es la presentación de las dos complicaciones

P-092

MANEJO ENDOSCÓPICO DE FÍSTULAS SECUNDARIAS A PROCEDIMIENTOS BARIÁTRICOS MEDIANTE EL USO DE CIERRE ENDOLUMINAL ASISTIDO AL VACIO

Complicaciones postoperatorias

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Background:

Estudio de la utilización del VAC endoscópico en el manejo de complicaciones, detallamos el uso de una variante empleada de la esponja sin la utilización del sistema de succión con Resultados: efectivos en el cierre de la fístula.


Titulo: Manejo Endoscópico De Fístulas Secundarias A Procedimientos Bariátricos Mediante El Uso De Cierre Endoluminal Asistido Al Vacío.
Autores: Macareno Michel, Alberto*, Villa De La Rosa, Niurky*

Introducción

Objetivos

Material y Método

Resultados

Paciente A

Paciente B

Paciente C

Conclusión

P-093

MANGA GASTRICA LAPAROSCOPICA MAS SEGURA USANDO FLUORESCENCIA CON VERDE DE INDOCIANINA

Manga plus

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Introduccion:

El verde de indocianina por fluorescencia puede evaluar la macro y micro vascularización del tercio distal del esófago, la UGE así como sus variables, zona de mayor riesgo de filtración. Ya que uno de los mayores temores en una manga gástrica es la filtración de la línea de grapas; y una de las teorías es la irrigación de esta zona, este estudio nos ayuda a valorar la perfusión tisular de la línea de grapeo en tiempo real.

Objetivos:

El objetivo de este estudio es presentar nuestra experiencia preliminar de 5 casos consecutivos con el uso de verde de indocianina con fluorescencia, posterior a realizar gastrectomía vertical en manga con disparos lineales articulables, para valorar riesgo de filtración por perfusión tisular disminuida.

Metodos:

Al terminar la gastrectomía parcial, usamos verde de indocianina por fluorescencia laparoscópica, realizamos la prueba de azul de metileno transoperatoria, una SEGD bario diluido 50-50 a las 28 horas postoperatorias, drenaje tipo blake 19Fr, a nivel de la UGE y línea de grapas por 7 días, seguimiento clínico al 7, 30, 60 y 90 días.

Resultados:

Identificamos una adecuada y homogénea perfusión tisular a nivel del tercio distal del esófago, UGE, línea de grapas, en comparación con el espécimen a retirar por un lado, de vascularizado. Prueba de azul de metileno negativa, drenaje serohemático escaso al momento de su retiro al 7 día, clínicamente, afebriles, tolerando vía oral evolucionando de líquidos claros a papilla chirri a papilla espesor normal y dieta en trozos, fc entre 70-90.

Conclusion:

La manga gástrica laparoscópica a pesar de estar "estandarizada" por consenso de expertos, está lejos de serlo. Aunque tenga el mismo nombre no significa que alguien más la vaya a realizar igual, hay tantas técnicas diferentes como cirujanos.

Además de las variables extras que conocemos: Número de puertos, Tamaño del sondon, Grapar de la derecha, centro o izquierda, referencia de las medidas anatómicas, simetría de pared anterior y posterior del estómago, resección completa del fondo gástrico, último disparo a nivel de la UGE (a 5-20 mm de distancia), reforzar línea de grapas o no y con que?.

Pero un detalle importante es la irrigación del tercio distal, UGE y sus variables, cuando la filtración no se debe a un detalle técnico. El uso de verde de indocianina por fluoroscopia en tiempo real nos permite:

Un mapeo del esófago distal estructura muscular, estómago superior y UGE.

Puede guiarnos en la disección para una preservación de ramas críticas.

Puede contribuir a detectar areas desvacularizadas, posterior a la sección en la línea de grapas, perfundidas irregularmente.

Nos puede permitir actuar en consecuencia:

Perfusion Tisular Real. - Integridad Anatómica.

Debemos ser inteligentes en adaptar la tecnología que se va presentando.

P-094

MARGINAL ULCER AFTER GASTROJEJUNAL BYPASS: PLAYING RUSSIAN ROULETTE WITH TOBACCO

Revisional surgery

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Introduction:

A common postoperative complication after laparoscopic Roux-Y gastric bypass (LRYGB) is the development of marginal ulcers (MU) in the gastrojejunal anastomosis. Several risk factors, such as smoking, seem to have an impact on the development of MU.

Objective:

To present the case of laparoscopic revisional bariatric surgery in a patient with MU after LRYGB associated with smoking.

Clinical Case: A 43-years-old woman with LRYGB in September 2010. In April 2015 she began with epigastric pain without improvement with different lines of proton pump inhibitors. She kept on smoking after surgery until January 2019

Methods:

Endoscopy July 2015: Erosive gastritis.biopsies: Erosive acute gastritis. Helicobacter pylori. She began eradication therapy with omeprazole+clarithromycin+amoxicillin. The post-treatment test was negative. Endoscopy April 2018: Jejunal ulcer Forrest III Biopsy: Intestinal metaplasia and chronic inflammation.Gastric postsurgical changes.Erosive gastropathy. The symptoms persist. Endoscopy May 2019: Mucosal transition and hiatus at the level Z line without injuries. Stomach: gastric pouch without alterations. Anastomosis without alterations. Progress by jejunal loop showed a flat jejunal ulcer of about 15 mm, biopsies were taken from the edge of the ulcer.

Persistence of jejunal ulcer. P.A: Mild, nonspecific chronic inflammation. There was no villous atrophy or increased intraepithelial lymphocytes. ABDOMINO-PELVIC CT March 2019:

No significant alterations. Neuroendocrine study July 2019: normal. OCTREOSCAN: October 2019: Study within normal limits. PH METRY WITH TREATMENT: adequate esophageal acid inhibition. inadequate gastric acid inhibition. HIGH-RESOLUTION MANOMETRY: Esophageal motility ineffective, with a small separation between the diaphragmatic imprint and 2.3cm lower esophageal sphincter.

Gastrointestinal transit (GIT) to assess gastric pouch´s size before revisional surgery.

Intervention:

laparoscopy revisional surgery with resection of anastomosis, new gastrojejunal anastomosis + trunk vagotomy. POSTOPERATIVE: without complications

Conclusions: Most MU occur within the first postoperative year. Smoking is an independent and statistically significant predictor of the development of MU with a 4.6 times higher risk regardless of the degree of smoking. MU is one of the most important and frequent complications, therefore, it should be recommended to quit smoking before surgery.

P-095

MASSIVE ENDOLUMINAL BLEEDING IN A PATIENT UNDERGOING A SLEEVE GASTRECTOMY. EMBOLIZATION OF THE LEFT GASTRIC ARTERY

Post-operative complications

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Objectives:

The objective of this clinical case is to document a postoperative complication after laparoscopic sleeve gastrectomy, unusual, but that can compromise the patient's life.

Methods:

A 28-year-old male patient, with a BMI of 53, without associated comorbidities, proposed for laparoscopic sleeve gastrectomy. The immediate postoperative period was uneventful, causing hospital discharge on the second day. Two days later, he went to the emergency department of our Hospital due to pain in the left flank and fever, with hemodynamic stability and general condition preserved. The CT shows bubbles near the angle of His, suggestive of leak at that level, without collection or peritonitis. The installation of endoprosthesis, digestive rest and broad-spectrum antibiotic therapy is proposed. The night before placement, he had upper gastrointestinal bleeding, which required transfer to the ICU and transfusion of blood products, stabilizing the condition. After discussion, it is decided to proceed with stent placement. 48 hours later, the bleeding recurs, this time massive, with hemodynamic repercussions, in addition to the expulsion of the endoprosthesis in bloody vomiting. Urgent transfer to the Vascular Rx room is decided.

Results:

Arteriography of the aortic vascular tree reveals a contrast output (blush) at the level of the first two branches of the left gastric artery, at the level of the upper area of the gastric sleeve. Both branches are embolized, obtaining hemodynamic recovery of the patient, as well as stabilization of bleeding. Once in the hospitalization room, the angle of His fistula is solved conservatively, with parenteral nutrition and digestive rest.

Conclusion:

Bleeding secondary to laparoscopic sleeve gastrectomy is an unusual complication that, if it does not subside, may require urgent intervention. In this case, we achieved a more efficient solution, which avoided surgery, and which shows that despite the gastrectomy of the greater curvature and the fundus, the embolization of the first branches of the left gastric not only does not necrotize the area, given the rich gastric vascularization, but it was not an impediment to closing the fistula at the angle of His.

P-096

MATERNAL AND NEONATAL OUTCOMES IN PATIENTS WHO CONCEIVE AFTER A LAPAROSCOPIC SLEEVE GASTRECTOMY

Fertility, pregnancy, nutrition and bariatric surgery

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Background:

Women are advised to avoid pregnancy within 12-18 months following bariatric surgery. The pregnancy and maternal outcomes for women who conceive prior to this recommended time-frame are unclear however some studies suggest there is a significantly higher complication rate.

Objective:

To investigate the pregnancy and maternal outcomes in women who conceive within 12 months following a laparoscopic sleeve gastrectomy, in an Australian setting.

Methods/Results:

This is a retrospective study of patients who underwent a laparoscopic sleeve gastrectomy from January 2015 to December 2020 at St George Private Hospital, Kogarah. Follow-up of the patients included regular dietetic input. Data that was collected included both anthropometry, nutritional markers (including iron, folate, vitamin B12, hemoglobin), pregnancy outcomes including gestational weight, gestational age, and antenatal and perinatal complications. The association between low gestational weight, decreased gestational age and maternal weight gain as well an analysis of incidence of pregnancy complications was determined.

Conclusion:

This study is the first of its kind in an Australian setting. The results from the study will help support guidelines for pregnancy recommendations post laparoscopic sleeve gastrectomy.

P-097

METABOLIC SURGERY: WHY WE HAVE TO OPERATE OBESE PATIENTS

Type 2 diabetes and metabolic surgery

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Introduction:

If we surgeons operate on obese patients, it is not (only) to comply with beauty standards, variable over time and cultures. If we operate, it is because obesity kills. This disease is the most important cause of death throughout the centuries and it is estimated that in 2017 8% of the global deaths in the world were caused by obesity, maybe hunger kills more.

Method:

We present here a sum-up of the different publications showing how greatly bariatric surgery improve or cure important potentially lethal diseases. Diabetes, cardio-vascular pathologies and cancers are considered.

Results and Conclusion:

Bariatric surgery is associated with a reduction in mortality from all incidence of obesity-related diseases. This systematic review confirms that the best results over time are reached with a combined medical-behavioral and surgical approach. A broader access to bariatric surgery for obese people may decrease the long-term sequelae of this disease.

P-098

MINIMAL DUODENAL DISSECTION SINGLE ANASTOMOSIS DUODENAL ILEAL BYPASS - PRESERVING THE DUODENAL FUNCTION AND PACEMAKER

SADIs

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Background:

Single and two stage SADI has gained increasing popularity as a treatment modality for morbid obesity with increasing numbers performed globally. The most commonly performed technique involves extensive duodenal dissection with complete mobilisation of the proximal 2cm of duodenum to ensure adequate distance from the pylorus. Anatomically, the duodenal pacemaker is located within the proximal 5 to 6mm of the duodenum, a site affected by dissection. Duodenal basal electrical activity is roughly 11 pulsations per minute, affecting gastric, duodenal and intestinal motility. Furthermore, innervation and vascularity to the duodenum plays a vital role in regulation of gastrin, CCK, PYY and GLP-1. As such, minimising duodenal dissection minimises the vascular and innervation damage to this critical structure, theoretically improving gastrointestinal motility and avoiding functional problems post SADI procedure.

Objectives:

To describe an operative approach to performing SADI procedures that involves minimal duodenal dissection, improving vascularity and innervation of the duodenal pacemaker.

Methods:

The anatomical landmarks of the pylorus and descending portion of the duodenum are identified. The peritoneum on the inferior border of the duodenum 2cm from the pylorus is incised at a single precise point with a harmonic scalpel. The duodenum is gently elevated and precise dissection, closely adherent to the posterior wall of the duodenum performed. The peritoneum along the superior border of the duodenum is incised at the presumed exact exit site of the laparoscopic stapler. The duodenum is gently retracted as the laparoscopic stapler is introduced into this exact tunnel mindful of the common bile duct and gastroduodenal artery. The duodenum is then transected and duodenoileostomy performed.

Results:

Since May 2014, 46 minimal duodenal dissection SADI procedures were performed both laparoscopic and robotically by a single surgeon. 1 patient suffered an early postoperative leak managed by laparoscopic omental patch repair. No patient experienced a stomal ulcer, early or late dumping syndromes or postprandial hyperinsulinemic hypoglycemia. 1 patient required reversal for severe protein malnutrition. Functionally, no patient experienced gastroparesis, or recurrent unexplained abdominal discomfort.

Conclusion:

Minimal duodenal dissection SADI can be performed safely with excellent postoperative results.

P-099

MORE PROBLEMS WITH COGNITIVE RESTRAINT AND UNCONTROLLED EATING AFTER SLEEVE GASTRECTOMY THAN AFTER ROUX-EN-Y GASTRIC BYPASS - RESULTS FROM A RANDOMIZED TRIAL

Nutrition, eating behaviors before and after bariatric surgery

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Background / introduction

Complicated eating behavior can affect health-related quality of life (HRQoL) after bariatric surgery. Few studies have evaluated whether such problems differ between surgical techniques or correlate to the degree of weight loss.

Objectives:

To compare problematic relationship to food, measured with Three Factor Eating Questionnaire (TFEQ-R21) between Roux-en-Y gastric bypass (RYGB) and Sleeve gastrectomy (SG) one year after surgery.

Methods:

In an ongoing Swedish randomized study between RYGB and SG - the Bypass Equipoise Sleeve Trial – we aim at comparing weight loss and incidence of adverse events as primary endpoints. In the present sub-study, we analyzed 211 patients who completed the TFEQ-R21 at one year after surgery which evaluates problems with eating factors associated with HRQoL; cognitive restraint (CR), uncontrolled eating (UE) and emotional eating (EE). Higher scores indicate more problems with CR, UE and EE, lowest and highest possible range 0-100.

Results:

97 patients were randomized to RYGB and 114 to SG with an equal distribution between sexes, 55% of women vs. 51% of men received SG (p=0.673). Mean (SD) age in women and men were 42 (10) and 51 (7) years, respectively (p<0.001), without differences in age between surgical methods; 43.9 (10.2) vs. 44.4 (10.5) years, (p=0.764) in RYGB and SG. BMI was similar between RYGB and SG at baseline, 40.4 (3.5) vs. 40.9 (3.8) kg/m2 (p=0.347).

RYGB was associated with greater weight loss than SG -37.4 (8.6) vs. -33.5 (10.4) % of total weight, (p=0.003). TFEQ revealed more problems with CR after SG than after RYGB; 33 (14) vs. 27 (15) (p=0.004) and more problems regarding UE; 20 (18) vs. 15 (14) (p=0.050). However, there was no difference related to EE; 17 (18) vs. 14 (14) (p=0.124). In addition, no relationship between % total weight loss and the dimensions CR, UE and EE was found when analysis was performed on pooled data. However, there was a weak correlation between EE and % total weight loss for RYGB, r=0.193, (p=0.045), when calculations were made separately for RYGB and SG.

Conclusion:

Results from this clinical trial show that patients have more problems with cognitive restraint and uncontrolled eating after sleeve gastrectomy in comparison to after Roux-en-Y gastric bypass, which may be due to different physiological mechanisms of action. The relationship between emotional eating, body weight and health related quality of life needs further investigation.

P-100

NECESIDAD DE TRATAMIENTO FARMACOLÓGICO PARA REGULACIÓN DEL PESO CORPORAL EN PACIENTES CON OBESIDAD SOMETIDOS A GASTRECTOMÍA EN MANGA: DESCRIPCIÓN DE COHORTE EN EQUIPO MULTIDISCIPLINARIO EN CLÍNICA LAS CONDES

Management of weight regain after surgery

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Introduccións:

Se realizará un estudio observacional analítico de una cohorte histórica de pacientes operados en Clínica las Condes de Gastrectomía en Manga Laparoscópica, evaluados a los 12 meses posteriores a la cirugía y que cuenten con al menos 3 controles del equipo multidisciplinario durante el periodo comprendido entre el 01 enero del 2015 hasta el 30 de septiembre del 2018.

Objetivos:

Descripción de los pacientes portadores de obesidad que fueron sometidos a gastrectomía en manga en el centro de nutrición y cirugía bariatrica de Clínica Las Condes, que necesitaron durante el primer año de control, tratamiento farmacológico coadyuvante para lograr optimizar la baja de peso posterior a cirugía bariatrica y describir cuáles fueron los fármacos utilizados, sus Resultados: y efectos adversos

Método:

Estudio Observacional Analítico Retrospectivo

Resultados:

Los pacientes que necesitaron tratamiento farmacológico coadyuvante durante el primer año posterior a una gastrectomía en manga son pacientes que presentaban un IMC inicial más alto que el promedio de los pacientes que se someten a esta cirugía y que también presentan rasgos ansiosos. Este grupo de pacientes obtuvo una respuesta satisfactoria a la farmacoterapia coadyuvante.

Conclusión:

Existe un porcentaje menor de pacientes portadores de obesidad que no lograron una baja de peso significativa durante el primer año posterior a una gastrectomía en manga. El tratamiento farmacológico coadyuvante es una alternativa segura y bien tolerada para lograr un

P-101

NEUTROPHIL-TO-LYMPHOCYTE RATIO AS AN EARLY PREDICTOR FOR MAJOR COMPLICATIONS AFTER METABOLIC SURGERY

Endoscopic and percutaneous interventional procedures

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Background:

In metabolic-bariatric fast-track surgery, patients are scheduled for discharge on day-one postoperatively. The neutrophil-to-lymphocyte ratio (NLR) could be an inexpensive and rapid way to identify patients at risk of early complications. This study aimed to determine the predictive value of the NLR on early postoperative major complications.

Methods:

Prospective data was collected of all patients undergoing a primary metabolic procedure in a single center between April 2018 and April 2019. In our study the association between NLR, total leukocyte count, and serum CRP, were compared with major complications and readmissions within 30 days postoperatively.

Results:

In total, 829 patients underwent a primary metabolic procedure: 336 (40.5%) Roux-en-Y gastric bypass, 410 (49.5%) sleeve gastrectomy and 83 (10.0%) one anastomosis gastric bypass-mini gastric bypass. Major complications occurred in 27 (3.3%) patients, who had significantly higher levels of postoperative NLR (OR 1.424, 95% CI 1.270-1.597, p<0.001), delta-NLR (OR 1.492, 95% CI 1.316-1.693, p<0.001), and leukocyte count (OR 1.239, 95%CI 1.105-1.388, p<0.001). The ideal cutoff points to predict complications after metabolic surgery was 6.56 for postoperative NLR (sensitivity 76% and specificity 68%) and 4.68 for delta-NLR (sensitivity 76% and specificity 75%).

Conclusion:

Postoperative NLR and delta-NLR were independently associated with early major complications after metabolic surgery. These markers may be useful to help identify patients that are at risk for complications, and can aid in the decision-making for safe day-one postoperative discharge or early intervention.

P-102

NUESTRA EXPERIENCIA LUEGO DE UN AÑO DE SEGUIMIENTO EN PACIENTES SOMETIDO A BYPASS GÁSTRICO DE UNA SOLA ANASTOMOSIS (OAGB) EN UN GRUPO BARIÁTRICO EN PERÚ

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Antecedentes:

La Cirugía Bariátrica y Metabólica se ha establecido en la región como práctica frecuente para el manejo de la obesidad y sus consecuencias. Trabajo realizado por un grupo quirúrgico bariátrico en Lima-Perú, los pacientes fueron registrados con su número de documento nacional de identidad.

Objetivos:

Describir la experiencia, seguimiento en relación con las comorbilidades, pérdida de peso, resolución de comorbilidades, déficit nutricional y complicaciones en nuestra serie de casos sometidos a Bypass Gástrico de una sola anastomosis (OAGB) tanto primario como Cirugía Revisional.

Materiales y métodos:

Estudio retrospectivo descriptivo, se estudiaron 92 pacientes entre Noviembre del 2018 y Marzo del 2021 se analizaron las características clínicas y de laboratorio perioperatorias en relación a las comorbilidades, pérdida de peso, resolución de comorbilidades, déficit nutricional y complicaciones en pacientes sometidos a OAGB seguidos durante un año

Resultados:

Un total de 92 pacientes fueron operados y se le realizo seguimiento durante el primer año, con una edad media de 39.4 ± 9 años (21-60 años),60 eran mujeres (65,2%) y 32 hombres (34.8%). 31 pacientes sufrían de hipertensión arterial (33.7%) y 31 pacientes padecían de diabetes mellitus tipo 2 (33.7%),6 pacientes presentaron resistencia a la insulina (6.5%), 4 hipotiroidismo (4.4%). De todos los pacientes a 14 se les hizo Cirugía Revisional, 11 por manga gástrica previa (12%) y a 3 por Banda gástrica previa (3.3%). El Índice de masa corporal medio (IMC, kg/m2) en el momento de OAGB era de 43,5 ± 7,3 (rango 70,1–31 kg/m2) y el peso promedio el día de la operación era de 119.33± 23 kg. En relación con las complicaciones, 5 pacientes la presentaron (4.5%), 3 de ellas terminaron en reoperaciones dentro de las primeras 24 horas y dos se resolvieron vía endoscópica. Al año de seguimiento, el IMC de los pacientes se redujo a 26.3± 3.3 kg/m2, y la pérdida de peso promedio respectiva llego a 73.1 ± 11.5 kg. Todas las comorbilidades relacionadas con la obesidad disminuyeron significativamente al año de seguimiento. En relación con los exámenes de laboratorio, al inicio del proceso el colesterol bajo de 203.5 ±32.9 mg/dl a 174.8 ±17.1mg/dl y la hemoglobina glicosilada de 6.1±1.2% bajo a 5.0±0.7% luego del año. Por último, la albumina basal media al año fue de 4.1± 0.5 y encontramos una ligera baja de la vitamina B12 en 8 pacientes (7.36%) y en vitamina D en 13 (11.96%) de los pacientes.Mortalidad 0%

Tabla 1. Características de la población de estudio

Características	N = 92 n (%)
Sexo	
Femenino	60 (65.2)
Masculino	32 (34.8)
Edad (años) (media ± DS)	39.4 ± 9.0
Antecedentes [a]	
Diabetes	31 (33.7)
Hipertensión	31 (33.7)
Manga gástrica	11 (12.0)
Resistencia a la insulina	6 (6.5)
Hipotiroidismo	4 (4.4)
Banda gástrica	3 (3.3)
Otros	8 (8.7)
Tipo de cirugía	
Bagua	79 (85.9)
Revisional	13 (14.1)
Complicación post-cirugía	
No	86 (93.5)
Sí	5 4.6
Albúmina mes 12 (g/dL) (media ± DS)	4.1 ± 0.5
Vitamina B12 mes 12 [b]	
Baja	8 7.36
Normal	
Vitamina D mes 12 [b]	
Baja	13 11.96
Normal	

[a] Los valores no suman 92 porque hay presencia de 2 o más antecedentes en la misma persona

[b] Los valores no suman 92 por la presencia de valores perdidos

P-103

NUTRITIONAL DEFICIENCIES FOLLOWING SLEEVE GASTRECTOMY AFTER SIX YEARS OF FOLLOW-UP

Pre and post nutritional deficiencies

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Introduction:

Sleeve Gastrectomy (SG) is currently one of the most popularized approaches for bariatric surgery. Current literature suggests that while it is effective in weight loss, it may be attenuating the nutritional deficiencies of obese patients.

Objectives:

To assess nutritional deficiencies regarding Iron, Ferritin, Folic acid, Vitamin B12, Magnesium and Phosphorus at six years post laparoscopic SG.

Methods:

We utilized the records of 60 patients with complete follow-ups through the six years following laparoscopic SG at our institution. We evaluated the presence of anemia, as well as deficiencies in Iron, Ferritin, Folic Acid, Vitamin B12, Magnesium, and Phosphorus pre and postoperatively.

Results:

17.2% of the patients had pre-existing anemia. The percentage of patients that exhibited a deficiency of iron, ferritin, folic acid, vitamin B12, magnesium, and phosphorus were 22%, 5.3%, 1.4%, 3.8%, 29.7%, and 5.3%, respectively. A significant worsening in the deficiencies of hemoglobin, ferritin, and B12 was noted (36.7%, 43.3%, and 11.7%, $p = 0.001$, $p < 0.001$, $p = 0.019$, respectively). No significant attenuations in the deficiencies of iron, folic acid, magnesium, and phosphorus were noted after 6 years of followup (25%, 1.7%, 20%, and 3%, $p = 0.625$, $p = 0.896$, $p = 0.139$, $p = 0.539$, respectively).

Conclusions:

Micronutrient deficiencies after laparoscopic SG is a less investigated issue, especially regarding long-term outcomes. Our study indicates a significant impact on anemia, as well as the deficiencies of several micronutrients. This calls for more specific dietary planning after laparoscopic SG.

P-104

OBESITY EFFECTS ON HOSPITALIZATION DAYS IN INTENSIVE CARE UNITY BY COVID-19

Integrated health

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Background:

Although Obesity has been related to the severity of COVID-19, It remains unclear the relationships between admission of seriously ill patients for this virus, especially in emergency critical care units (ICU), as a global and economic problem, due to the presence of increased body weight.

Objective:

Therefore, this study aims to understand the relationship between the degree of obesity and bed days in patients admitted to the ICU

A descriptive, comparative and longitudinal study of patients hospitalized for COVID-19 between March-December of 2020 at the Regional Hospital of Copiapo, Chile.

Methods:

A descriptive, longitudinal study with a quantitative approach to analyze the relationship between score and category of BMI and days in ICU was used for this research. It was carried out after the collection of records of patients admitted to the ICU at the Regional Hospital of Copiapo (RHC), Chile. The Variables used were sex, age, body mass index (BMI), BMI categorization, and days of ICU hospitalization

Results:

The mean and standard deviation for age was 58.04±12.6 years, weight was 81.12±14.03 kg, height was 1.61±0.3 m, BMI was 30±5.04 kg/m2, days of hospitalization was 17.7±5.5 days, while days of mechanical ventilation in ICU was 14.2±3.4.

Conclusion:

Our results prove and relate directly that obesity influences on prolonged use of ICU beds would partly explain the saturation of patients in emergency rooms as an important factor in the severity of COVID-19.

Table 1. Mean and SD of numeric variables, regarding biometrical data and days of hospitalization from the simple.

Numeric Variables	Descriptor	Arithmetic Mean	Standard deviation
Age	years	58.04	12.6
Weight	kg	81.12	14.03
Height	m	1.61	0.3
BMI	Kg/m^2	30	5.04
Days in hospital	days	17.7	5.5

Table 2. Nominal variables of the sample, according to frequency and percentage, and the significant difference by Pearson's chi2.

Nominal variables	Descriptor	Frequency	Percentage (%)	p value
Sex	Male	34	70.8	0.004***
	Female	14	29.2	
BMI Caterorization	Normal	8	16.6	0.002***
	Overweight	18	37.5	
	Obesity I	15	31.25	
	Obesity II	5	10.2	
	Obesity III	2	4.16	
Severity degree	Moderate	14	29.2	0.001***
	Severe	34	70.8	
***= high significant difference values.				

P-105

ONE ANASTOMOSIS GASTRIC BYPASS VERSUS LONG BILIOPANCREATIC LIMB ROUX-EN-Y GASTRIC BYPASS: A RETROSPECTIVE COHORT STUDY.

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Various studies try to evaluate the ideal length of the biliopancreatic limb in gastric bypass to find the best compromise between efficiency, without leading to malnutrition. One-anastomosis gastric bypass (OAGB) is known for its efficiency. However, some authors criticize this technique for its malabsorptive effect when using long biliopancreatic limb, resulting in delisting of this technique. This study aimed to explore weight loss results, remission of comorbidities, nutritional deficiencies and quality of life at 1-year post-operative, between one-anastomosis gastric bypass (OAGB) versus long biliopancreatic limb Roux-en-Y gastric bypass (LBL-RYGB).

Methods:

This retrospective, single-center, cohort study compared two groups: the OAGB group (n = 126) which underwent one-anastomosis gastric bypass with a biliopancreatic limb of 150 cm between February 2018 and February 2019, and the LBL-RYGB group (n = 58) which underwent long-biliopancreatic limb Roux-En-Y gastric bypass with a biliopancreatic limb of 120cm, between February 2020 and February 2021. At 1 year, we assessed postoperative weight, BMI, resolution of obesity related comorbidities, nutritional data, quality of life and hospitalization during the postoperative year.

Results:

We found similar baseline characteristics in the 2 groups, except for hepatic steatosis and dyslipidaemia which were more frequent in the OAGB group. Less patients were included in the LBL-RYGB group due to the COVID19 pandemic. At 1-year post-operative, we found similar results in terms of weight loss, resolution of comorbidities, and quality of life. There was a higher proportion of diarrhea in the OAGB group. The nutritional data differ only for the vitamin D which was more likely to be missing in the OAGB group. The rate of hospitalization during the 1st postoperative year was similar, but causes were different. In the LBL-RYGB group, we describe a higher rate of anastomotic ulcer and 3 cases of surgery for abdominal pain revealing internal hernia.

Conclusions:

In this retrospective study, it seems that OAGB has the same efficiency than the LBL-RYGB in terms of weight loss and resolution of comorbidities. We found a higher rate of complications in the LBL-RYGB group, suggesting the safety of the OAGB procedure. These results need to be confirmed with prospective studies, including a higher proportion of patients.

P-106

ONE ANASTOMOSIS GASTRIC BYPASS (OAGB) VS ROUX-EN-Y GASTRIC BYPASS (RYGB) FOR TYPE 2 DIABETES MELLITUS IN OBESE SUBJECTS: A RANDOMISED CONTROLLED TRIAL

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

One anastomosis gastric bypass (OAGB) is an upcoming bariatric surgical procedure with Roux en Y gastric bypass (RYGB) remaining the gold standard. The Level 1 data comparing these two procedures are scarce.

Methods:

We performed a noninferiority Randomized Controlled trial comparing OAGB and RYGB, impacting Type 2 Diabetes Mellitus (T2DM) as the primary outcome. The limb length was 200 cm in the OAGB group. In the RYGB group, the Alimentary limb length was 140 cm and the Biliopancreatic limb was 70 cm in all patients. HbA1c <6%, FBS <100 mg/dL was defined as remission. HbA1c 6%–6.4% or FBG100–125 mg/dL was defined as partial remission.

Results:

A total of 43 patients were randomized; 22 patients in the OAGB group and 21 patients in the RYGB group. Four patients randomized in the OAGB group and three patients in the RYGB group underwent LSG due to intraoperative findings of the cirrhotic liver. The mean operating time in the OAGB group was significantly lesser than the RYGB group (92.27 ± 25.03 min vs 129.26 ± 26.36min. 84.6% and 85.7% of the patients in the OAGB and RYGB groups had remission of T2DM at 1 year respectively. The rest of the patients had an improvement. None of the patients had an increase in the dosage of OHA/ Insulin in either group. Details of the diabetic profile (HbA1c, Fasting sugar, postprandial sugar, Serum Insulin, C peptide) preoperatively and at follow-up are shown in the table. The TWL was 31.97± 4.72% and 30.37 ± 5.51% (p-value 0.15) in the OAGB and RYGB groups respectively. OAGB group had lower postoperative serum iron and folate levels as compared to the RYGB group. The rest of the nutritional parameters were similar in both groups. Marginal ulcers were present in 2 patients in the OAGB group and one patient in the RYGB group at 1 year of follow-up.

Conclusion:

OAGB and RYGB are comparable in terms of weight loss with an acceptable complication rate. The resolution of T2DM is similar in both procedures. A bypass length of 200 cm in OAGB achieves a satisfactory weight loss without serious nutritional complications.

[Mean (SD)]	Group "A" OAGB(n=22)	Group "B" RYGB(n=21)	p-value
HbA1c	5.56± 0.73	5.67± 0.52	0.59
FBS (mg/dL)	90.86± 15.10	90.14±10.77	0.85
PPBS (mg/dL)	119.54 ± 24.51	126.28 ± 19.67	0.31
Sr. Insulin(ng/dL)	8.66 ± 4.34	8.3 ± 4.06	0.80
C-peptide (IU/L)	2.77 ± 1.07	2.40 ± 1.52	0.24

P-107

OPIOID FREE ANALGESIA: A PILOT STUDY IN BARIATRIC PATIENTS

Perioperative management

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Introduction:

It is known that the opioid epidemic carries a significant burden on our medical system. In 2015, there were 52,404 US deaths secondary to drug overdose. 33,091 (63.1%) involved opioid use. A multicenter cohort study indicated that among 1892 opioid naïve patients undergoing bariatric surgery, the prevalence of opioid use increased from 5.8% at month 6 (95% CI: 4.7-6.9) to 14.2% (95% CI 12.2-16.3) at year 7. This demonstrates that patients undergoing bariatric surgery can have increased opioid requirements that unfortunately contribute to the epidemic.

Objectives:

This pilot study aims to assess the feasibility of a combined enhanced surgical recovery (ESR) and opioid-free analgesia (OFA) regimen in the perioperative period in a group of patients undergoing bariatric surgery.

Methods:

An OFA multidisciplinary committee was established to review the latest literature on enhanced recovery and opioid-free surgery and to apply it to patients undergoing bariatric surgery. 10 patients undergoing various bariatric procedures were enrolled. Prospective data collection was then performed on these patients and compared to patients at our facility who underwent elective ESR to establish the possible feasibility and noninferiority of OFA for controlling postoperative pain and time to safe discharge.

TRIAL CHART
Comparison of trial participants

	OFA Study Participants	ESR Protocol Patients
Volume:	10	313
LOS:	1.1	1.78
Mortality:	0	1.45
Complications:	0	0.97
Complication rate:	0	1.6
% ED readmit 90:	0	12.3
% readmit 30:	0	4.1
% readmit 90:	0	4.9
Median MME/day:	Median 0 Mean 1	Median 30

Data from 8/31/20-1/31/21

[1]Rudd, R. A., Seth, P., David, F., & Scholl, L. (2016, December 30). Increases in Drug and Opioid-Involved Overdose Deaths - United States, 2010-2015. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/28033313

P-108

OSTEOPATHY AS NEW OPTION TO TREAT GERD POST SLEEVE GASTRECTOMY

GERD and the sleeve – how to manage

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Background:

Gastroesophageal reflux is a recurrent complaint of postoperative patients after bariatric surgery, particularly sleeve gastrectomy. The role of the pneumogastric nerve in the gastric acid secretion is a therapeutic hypothesis and we decided to evaluate the role of osteopathic methods on this secretion and GERD.

Objectives:

Management of this symptom is an important objective, in order to improve the quality of life of patients.

We conducted a study in partnership with a school of osteopathy, in order to evaluate the interest of an osteopathic management in post-operative.

Methods:

Patients were randomized, to osteopathy group versus control. On day 1 of the surgery, they were asked to complete the REFLUX-QUAL Simplified® form to evaluate the impact of GERD on their quality of life.

Patients in the osteopathy group received an osteopathy session at one month and three months of surgery. No osteopathy treatment in control group. In each group patients received a systematic treated after sleeve gastrectomy by 30mg of lansoprazole during the first month.

All patients were asked to fill in the REFLUX-QUAL Simplified® form again at two months and four months after surgery, in order to assess whether the osteopathy sessions had an impact on their gastroesophageal reflux.

Results:

Fifty consecutive patients were included, each group comprising 25 patients. The results do not show any difference at two months (score of 72.9 in the control group versus 79.4 in the osteopathy group with $p = 0.17$). On the other hand, at four months, the results suggest a better quality of life in the osteopathy group (mean score of 75 in the control group versus 90.4 in the osteopathy group with $p < 0.05$).

Although small number, this study shows that osteopathic management in postoperative sleeve gastrectomy would improve the quality of life of patients suffering from gastroesophageal reflux.

Conclusion:

This new therapeutic option seems interesting to treat GERD after sleeve gastrectomy. A largest study is necessary to develop this non-medicinal treatment method in the management of this problematic pathology.

P-109

OUR EXPERIENCE OF BARIATRIC SURGERY IN MULTIDISCIPLINARY SURGICAL CENTER

Endoscopic and percutaneous interventional procedures

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Introduction:

Bariatric surgery, performed in multidisciplinary center, postoperative surgical complications structure was studied.

Objectives:

To improve the results of surgical treatment of patients with morbid obesity.

Methods.:

The database of bariatric surgery, performed in 2014–2020 years, was developed and analyzed in the center retrospectively and prospectively. The database was consisted of 292 operations, including 150 sleeve gastrectomy, 84 mini gastric bypasses, 37 adjustable gastric bandings, 12 Roux-en-Y gastric bypasses, 5 gastric plications and 4 gastric plications with gastric fundus resection. There were 215 females and 77 males among the patients. Their mean age was 41 years. All the above surgery was performed laparoscopically and mean surgery duration was 108 minutes.

Results:

As the result of performed bariatric surgery 36 complications was seen. Total complication rate was 11,84%, and there was no mortality. Staple line and anastomotic leakage after surgery, related to stomach resection or bypass, rate was 3,44%. Staple line and anastomotic bleeding after the same procedures rate was 3,05%. The above complications were the most frequent and accounted up to 47% of all bariatric surgery complications. Other complications were seen much less often with rates no more than 0,38% – 1,15%.

Conclusion:

Developed bariatric surgery database allows to analyze the structure of performed surgery and its complications, to identify patterns of their development. That would help to develop methods of the most frequent complications prevention and early diagnostics. The most significant complications by our experience are staple line and anastomotic leakage and bleeding after surgery, related to stomach resection or bypass. Therefore, exactly the improvement of their prevention allows to significantly increase bariatric surgery safety.

P-110

OUR EXPERIENCE OF MINI-GASTRIC BYPASS SURGERY IN THE TREATMENT OF MORBID OBESITY AND TYPE 2 DIABETES MELLITUS

Type 2 diabetes and metabolic surgery

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Introduction:

The population of the Republic of Uzbekistan is more than 34 million people, of which about 21% are obese and 8.7% are type 2 diabetes mellitus (T2DM). The need for bariatric surgeries is about 4.5 thousand surgeries per year. However, about 400 operations are carried out in the republic a year.

Objectives:

To improve the results of treatment of patients with morbid obesity and T2DM.

Methods:

From 2018 to 2020, the clinic performed 94 mini-gastric bypass operations. Of the 94 patients, 76 had T2DM associated with morbid obesity.

Our method of mini-gastric bypass was that the length of the gastric tube was 16 cm, the width was 4 cm. The diameter of the gastroenteroanastomosis was 4.0 cm. The length of the biliopancreatic loop was chosen from 150 to 250 cm.

Results:

The effectiveness of the treatment of obesity was assessed by the percentage of loss of excess BMI (% EBMIL). Analysis of clinical material showed that the average loss of excess BMI after 1 year was 82.3%.

The effectiveness of mini-gastric bypass in the correction of glycemia and remission of T2DM averaged 96.7%. In patients with T2DM duration from 5 to 10 years, this indicator was 100%, and in patients with a disease duration of more than 15 years it was 90.9%.

Conclusion:

1. Mini-gastric anastomosis is very effective in treating obesity with overweight loss up to 82.2% within a year after surgery.
2. Using a mini-gastric bypass in T2DM associated with morbid obesity, complete remission of diabetes mellitus occurred in 96.7% of cases.

P-111

OUTCOMES OF LAPAROSCOPIC ROUX-EN Y GASTRIC BYPASS AND LAPAROSCOPIC SLEEVE GASTRECTOMY REGARDING THE CHANGES OF SERUM VALUES OF ADIPOSE ASSOCIATED MOLECULES PROSPECTIVE OBSERVATIONAL COHORT STUDY

Basic science and research in bariatric surgery

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Background / Introduction:

Obesity is one of the most significant health problems seen on all age groups worldwide. Especially morbid obesity (Body Mass Index (BMI) ≥ 40 kg/m2) is notified as an important risk factor for various diseases like type 2 diabetes, pulmonary dysfunction, cardiovascular diseases, and hypertension. The adipo-cytokines, leptin and chemerin, and the orexigenic hormone, ghrelin, have been shown to play a role in the regulation of metabolism and appetite. Pathophysiological links between inflammation, obesity, and adipo-kines can be used for the treatment of metabolic dysregulation. Laparoscopic Roux-en-Y gastric bypass (LRYGB) is recognized as the gold-standard procedure in bariatric surgery, although laparoscopic sleeve gastrectomy (LSG) is becoming widespread.

Objectives:

The study aimed to compare the efficacy of the Laparoscopic Roux-en-Y gastric bypass (LRYGB) versus the efficacy of laparoscopic sleeve gastrectomy (LSG) by monitoring the changes of the serum values of adipose-associated molecules after LRYGB & LSG.

Methods:

Our prospective observational cohort study involved 120 patients undergoing LRYGB and LSG at Al-Azhar University hospitals /Egypt during the period June 2016–November 2018. However, 12 patients were subsequently excluded owing to the impossibility of follow-up. Patients were assessed prior to and 12 months after intervention with respect to body mass index (BMI), the presence of comorbidities, and changes of the serum values of adipos-associated molecules (adipo-cytokines, leptin and chemerin, and the orexigenic hormone, ghrelin).

Results:

108 patients were enrolled in the study, 56 of whom had been submitted to LRYGB and 52 submitted to LSG. The mean age was 37.3 and 78% were females. Statistical analysis of the weight and BMI showed significant reductions 12 months after the operation ($p < 0.001$). One year postoperatively, the success rate was 92.7% in the LRYGB group and 87% in the LSG group with no significant difference between both of the study groups. Statistical analysis of the changes of the serum values of adipos-associated molecules showed significant decrease of serum leptin level, chemerin levels, and ghrelin values in both of the study groups without significant difference between the groups (P Value > 0.05).

Conclusion:

Both LRYGB and LSG are an effective approach to treat morbid obesity. In the rate of successful weight loss, %WL and %EWL were equal between two groups at the first 1 year postoperatively. With regards to the serum values of adipos-associated molecules; both of the RYGB and LSG showed comparable reduction in the postoperative serum concentrations of leptin, chemerin, and ghrelin. Further studies are required to evaluate the weight loss maintenance and weight regain prevention over the long-term periods.

P-112

PAEDIATRICIANS' EXPERIENCE, PERCEPTIONS AND MANAGEMENT OF CHILDHOOD OBESITY AND ATTITUDES OF THE PAEDIATRICIANS

Bariatric surgery in the pediatric age group, how young should we go?

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Background:

Childhood obesity is a public health concern that is expanding globally. Of those aged between 5-19 years in Oman, 32% were found to be overweight in 2016.

Methods:

A cross sectional study was conducted where an electronic survey was distributed to in-training and post residency paediatricians in Oman. Participation was open for one week. Data that met inclusion criteria were analyzed using SPSS v22.

Results:

A total of 69 responses met the inclusion criteria and were analysed. 50% of participants were less than 30 years-old (53.6% female). 70% were in training residency (R1,R2 24.6%, R3,R4 36.2%,) and 30% were post residency. 72% had their training in Oman. About half of participants measure child's weight and Height, however, only 24.4% document BMI and compare with previous records. 75% regularly obtain family history of obesity and related conditions along with dietary intake. More than half of participants were not confident on discussing weight and related complication with the child, but 62.3% were confident in discussing it with the parents. 50% were confident in initiating treatment for childhood obesity and providing dietary advice. Attitudes towards exposure to childhood obesity and management varied and overall excellent exposure accounted for less than one third of responses (Medical school 21.7%, Residency 26.1%, 27.5%). In general, only 20.6% believe they are confident in managing childhood obesity and only 29% attended seminar or training on childhood obesity. 93% believe there is a need for a more focused training on childhood obesity prevention and management.

Conclusion:

Childhood obesity is an ongoing problem of public health concern. The detrimental social, psychological, and physiological effects of obesity call for pediatricians to address this health concern at every visit. Identification is necessary for patients to receive thorough weight-loss counseling and referrals to healthy living programs. Great effort needs to be targeted towards strengthening Paediatrician's confidence in childhood obesity prevention and management via in residency-training and continuous professional development.

P-113
PANCREATIC CANCER AFTER BARIATRIC SURGERY: A REVIEW OF THE LITERATURE
Bariatric surgery and cancer

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Background:
Pancreatic cancer (PC) is among foremost causes of cancer related deaths worldwide due to generic symptoms and lack of screening. The risk of developing pancreatic cancer in obese or overweight individuals is 1.5 times higher than individuals with a normal BMI. Bariatric Surgery has been associated with a reduction of obesity- related cancer, however, the number of cases that developed pancreatic cancer post Bariatric surgery is not known.

Objectives:
Examine the relationship between Bariatric Surgery and Pancreatic cancer and identify reported cases of pancreatic cancer after bariatric surgery.

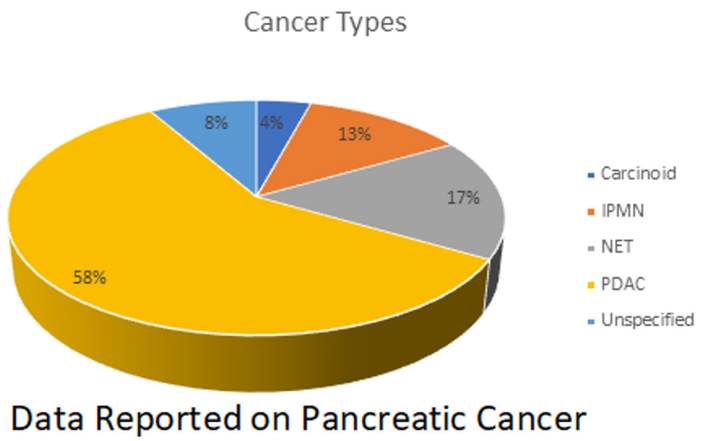
Methodology:
A narrative review of the literature was conducted. A MEDLINE database search was performed using the following Medical Subject Headings (MeSH) terms: pancreatic cancer, bariatric surgery, weight reduction surgery, pancreatic adenocarcinoma. These were combined with the following: postoperative, after surgery, and during surgery.

A WebScience search was then performed using similar terms. Additional references were then identified by manual search of the articles obtained from the MEDLINE and Web of Science. Cancer cases that were identified at the pre-operative period or intra-operatively were excluded. The searches covered the period from January 2000 to November 2020.

Results:
Epidemiological evidence has shown that obesity as a risk factor for the development of PC is a dose dependent risk. The review found that the risk of developing pancreatic cancer in obese or overweight individuals is 1.5 times higher than individuals with a normal BMI. At the same time, evidence from literature demonstrated that weight reduction by dietary restriction, physical activities, pharmacotherapy or weight reduction surgery reduces risk of PDAC.

A total of 24 cases of pancreatic cancer were identified and reported post Bariatric Surgery in the literature. The average age at diagnosis was 57.2 years and onset from surgery to diagnosis ranged from 2 months to 25 years. Of the identified cases, 23 cases were post Roux-en-Y Gastric Bypass and one case post Duodenal Switch. The review found that PDAC was the commonest reported pancreatic cancer post bariatric surgery accounting for 58.3%, followed by Neuroendocrine Tumours (NET) 16.7%.

Conclusion:
Along with weight reduction and improving comorbidities, bariatric surgery reduces risk of obesity-related carcinogenesis. Given the variation in onset of diagnosis, bariatric surgery did not increase cancer risk.



Data Reported on Pancreatic Cancer

P-114
PARTIALLY ROBOTIC TRANSIT BIPARTITION
Emergent technology, new nonstandard and bariatric surgery

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Introdução:

O Vídeo mostra uma gastrectomia vertical laparoscópica associada a uma bipartição do trânsito intestinal robótica (Plataforma Davinci Xi).

P-115

PATIENT'S BEHAVIORAL OUTCOMES AFTER THE BARIATRIC SURGERY: A PHENOMENOLOGICAL APPROACH

Behavioral health and bariatric surgery - pre and post-op challenges

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Introduction:

Positive behaviour outcomes in psychological health identified after bariatric surgery (body image, self-esteem, self-concept, taking control of his / her life and support for the health care staff) but some patients continue to struggle with weight loss, maintenance and regain, and resulting body image dissatisfaction.

Objectives:

To identify the behavioral outcomes after a bariatric surgery in post bariatric patient population and give feedback about their expectations such as the improvement of their health, appearance and interpersonal relations.

Methods:

Qualitative research and phenomenological approach was used with thematic analysis methodology to describe in depth the emerged data from the focus group with post bariatric patients (n=40) in Thessaloniki, Greece.

Results:

Changes in mood, anxiety disorders and depression affect the post bariatric patients because the following demanded daily-life long-term adaptations (medication, nutrition, exercise, self-control, medical check-up, contouring or plastic surgery). These patients show greater difficulties face to the new challenges, including the need to deal with stress and the other feelings in a new and functional way, to relearn to eat, to act and living after the surgery in a healthier way. A failure to achieve a normal-looking body and to accept the new body image was observed due to the massive and fast loss of weight. Also, a lack or a loss of the control proves that the surgery dominate the life activities and the social, personal, professional and romantic relationships. In addition, noted also feelings of emptiness, hunger pains, loss of energy, burden, fatigue and lack of motivation to continue the new life course. Finally, postoperative disordered eating was also present despite the medical guidelines given to achieve the post bariatric goal of weight reduction.

Conclusion:

All these symptoms influence the general quality of life and reduce the benefits of the bariatric surgery. The patient's data indicate a lack of preoperative education and appropriate preparation for the bariatric transition. Also, the absence of psychological support during the period before and after the surgery gives an answer to why these patients regain the weight or they do not actively participate to adopt attitudes and expectations of the daily life activities to achieve the best result. The role of the family and the social environment such as saboteurs affect also the procedure in total.

P-116

PERCEPÇÃO DOS SUJEITOS SOBRE A ATUAÇÃO FONOAUDIOLÓGICA NA EQUIPE DE ATENDIMENTO À CIRURGIA BARIÁTRICA

Saúde comportamental e cirurgia bariátrica - desafios pré e pós-operatórios

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Introdução:

A fonoaudiologia, embora não faça parte de todas as equipes de atendimento à cirurgia bariátrica (CB), tem um papel fundamental no atendimento ao paciente, tanto no pré como no pós-cirúrgico.

Objetivo:

Analisar a percepção dos sujeitos sobre a importância da atuação fonoaudiológica no processo de acompanhamento da CB.

Métodos:

Estudo transversal, com aplicação de perguntas abertas, realizado em clínica particular que conta com equipe de atendimento multidisciplinar. Foram entrevistados 31 sujeitos, sendo as perguntas aplicadas em três momentos: antes do primeiro contato com a Speech Pathology (13 sujeitos), a fim de se levantar as expectativas quanto a este atendimento; e nos períodos pré-operatório (8 sujeitos) e pós-operatório de dois meses (10 sujeitos), para verificar a influência do acompanhamento fonoaudiológico no processo da CB. Os resultados foram analisados através da Análise de conteúdo.

Resultados:

Antes da primeira consulta com a Speech Pathology, 46% (6) dos participantes relataram que, de acordo com seu conhecimento e expectativas, no pré-operatório o fonoaudiólogo iria trabalhar aspectos relativos à mastigação, quantidade de alimento ingerido e velocidade mastigatória, enquanto que, no pós-operatório, 38% (5) acreditavam na continuidade de questões envolvendo a alimentação, e 15% (2) esperavam receber orientações sobre entalos e engasgos. Quando os sujeitos foram questionados sobre a importância das orientações fonoaudiológicas, no pré-operatório, 100% (8) relataram estas serem extremamente importantes e 88% (7) salientaram que houve melhora na forma como se alimentavam após as orientações fonoaudiológicas, enfatizando adequação na velocidade de alimentação, na capacidade mastigatória e melhora dos aspectos relativos ao sono e à respiração. No período pós operatório de dois meses, 90% (9) dos sujeitos relataram que as orientações fornecidas pelo fonoaudiólogo foram extremamente importantes e apenas um sujeito relatou que são significantes. Discussão: Apesar de inicialmente os sujeitos não demonstrarem tanto conhecimento sobre a atuação fonoaudiológica na equipe, puderam relacionar o trabalho à adequação de aspectos alimentares. Após o primeiro contato com o fonoaudiólogo, ficou evidente o impacto das orientações recebidas.

Conclusão:

O papel do fonoaudiólogo na equipe multiprofissional é percebido de forma positiva pelos pacientes, uma vez que demonstrou resultado no comportamento alimentar durante o processo da cirurgia.

P-117

PERFIL DE MANOMETRÍA Y PHMETRÍA ESOFÁGICA DE PACIENTES CON OBESIDAD CANDIDATOS A CIRUGÍA BARIÁTRICA

ERGE y cirugía bariátrica

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Introducción:

La obesidad es una enfermedad de alta prevalencia a nivel mundial y es considerada un factor de riesgo para el reflujo gastro-esofágico, por lo que podría condicionar trastornos de motilidad esofágica. Existen pocos estudios respecto a las medidas de manometría y phmetría de estas patologías en pacientes con indicación de cirugía bariátrica independientemente de la presencia de síntomas esofágicos.

Objetivos:

Describir el perfil pre operatorio de phmetría con impedancia y manometría de los pacientes con obesidad candidatos a cirugía bariátrica.

Métodos:

Revisión retrospectiva de una base de datos prospectiva con 339 pacientes con obesidad, en quienes se solicitó de manera rutinaria estudios de phmetría con impedancia y manometría, previo a cirugía bariátrica entre los años 2006 y 2020 en Lima, Perú. La información se analizó descriptivamente.

Resultados:

Los pacientes del estudio presentan un índice de masa corporal (IMC) de 38.7 kg/m2 y una edad media de 41.9 años. En la phmetría los pacientes presentan una media en índice de Demeester de 21.7, siendo mayor a 14.7 en 46.6% y manifestando síntomas de reflujo un 41.9%.La impedancia es patológica en un 56.6%, siendo esta mixta a predominio ácido en 59.9%. En la manometría se evidencia que el esfínter esofágico inferior (EEI) es incompetente en 38.7% y presentan dismotilidad esofágica en 22.6%; asimismo una media de presión del EEI de 11.9 mmHg, de presión gástrica basal 9.8 mmHg y posterior a ingesta de 100cc de líquido de 42.0mmHg. La gradiente esófago gástrica es mayor en el estómago en 11.4% de casos.

Conclusión:

Este estudio demuestra una alta prevalencia de dismotilidad y reflujo gastroesofágico en los pacientes candidatos a cirugía bariátrica Estos Resultados: evidencian que la phmetría con impedancia y manometría esofágica deberían considerarse dentro de los exámenes preoperatorios de rutina.

P-118

PERIOPERATIVE OUTCOMES IN PATIENTS WITH AND WITHOUT CHRONIC PREOPERATIVE THERAPEUTIC ANTICOAGULATION UNDERGOING METABOLIC SURGERY AT AN ACADEMIC MEDICAL CENTER

Endoscopic and percutaneous interventional procedures

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Introduction:

Patients on chronic anticoagulation undergoing metabolic surgery represent an increased risk of complications including both bleeding and thrombotic events, including deep vein thrombosis (DVT) and pulmonary embolism (PE). The optimal perioperative management of patients who are receiving chronic anticoagulation therapy (CAT) is complex. In the colorectal surgery literature, patients on CAT have a 10% rate of periprocedural bleeding and a 3% rate of thromboembolism.

Objectives:

The aim of this study was to compare the safety and post-operative outcomes between patients with and without CAT at a tertiary referral center in the United Arab Emirates (UAE).

Methods:

All patients who underwent primary bariatric surgery between September 2015 and July 2019 were retrospectively reviewed. The first-group included patients with CAT and second-group included patients without CAT. Demographics, perioperative outcomes, and post-operative results were examined.

Results:

Our study included 542 patients, 22 (4%) with CAT and 520 (96%) without CAT. Mean age was 46.3 years (range 22-62) in the CAT and 36.0 years (range 15-70) in the non-CAT; median BMI was 41.8 ±6.6 and 42.7 ±7.3, respectively. The CAT group was 40.9% male and 59.1% female, and the non-CAT was 38.3% male with 61.7% female. There were no significant differences in comorbidities. In the CAT group, 36.4% of patients underwent Roux-en-Y gastric bypass and 63.6% sleeve gastrectomy. In the non-CAT group, 43.8% of patients received Roux-en-Y gastric bypass and 56.2% sleeve gastrectomy. There were no statistically significant differences in post-operative ED visits (18.1% vs. 24.2%, p= 0.51), minor or major complications including bleeding complications within 30-days (4.5% vs. 2.3%, p= 0.50), re-admission rates (4.5% vs. 3.6%, p= 0.82), re-operation rates (0% vs. 2.8%, p= 0.47) and complications after 30-days (4.5% vs. 4.2%, p= 0.07). There were statistically significant differences in mean length of stay (4.6 days vs. 2.6, p=0.00), which may be attributed to restarting CAT in the hospital setting prior to discharge. There were no deaths in both groups.

Conclusions:

In this series, at a tertiary referral center in the UAE, metabolic surgery is safe on CAT patients. Multi-disciplinary preoperative preparation might be warranted to avert potential complications.

P-119

PEROPERATIVE ADMINISTRATION OF TRANEXAMIC ACID IN SLEEVE GASTRECTOMY (PATAS) TO REDUCE HEMORRHAGE. A DOUBLE-BLIND RANDOMIZED PLACEBO-CONTROLLED TRIAL

Endoscopic and percutaneous interventional procedures

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Introduction:

Fast-track protocols often include short-term thromboprophylaxis and short length of hospital stay. These treatment strategies may negatively affect the occurrence and diagnosis of postoperative hemorrhage. Over the years, the rates of venous thromboembolic events (VTE) have decreased, while there seems to be an increase in the occurrence of postoperative hemorrhage. Tranexamic acid (TA) can potentially lower the incidence of postoperative hemorrhage.

Objectives:

This trial aims to investigate whether peroperative administration of TA reduces the peroperative and postoperative hemorrhage rates in laparoscopic sleeve gastrectomy (LSG).

Methods:

This is a single center double-blind randomized placebo-controlled trial. Eligible patients for LSG were included after obtaining informed consent. Patients were randomized between two groups: 1) administration of placebo infusion, and 2) administration of 1500mg TA. In both groups, the infusions was administered during the induction phase of the procedure. Primary outcome measure is peroperative usage of hemostatic clips. Secondary outcome measures are the postoperative hemoglobin (hb) decrease, rates of postoperative hemorrhage, rates of VTE, and duration of hospital admission.

Results:

Between September 2020 and February 2021, 40 patients underwent a LSG, 21 patients received a placebo infusion and 19 patients tranexamic acid. The mean amount of hemostatic clips used was less in the tranexamic acid group (7.5 ± 5.9 versus 4.2 ± 4.1). The mean of postoperative hb decrease was less in the tranexamic acid group (0.8 mmol/L versus 0.6 mmol/L). The percentage of suspicion on postoperative hemorrhage was higher in the placebo group (14.3% versus 5%). No complications as VTE or reoperation were found in both groups. Hospital admission was 5.5 hour longer in the placebo group (31.2 h ± 5.8 versus 36.6 h ± 14.0).

Conclusion:

A decreasing trend in the use of hemostatic clips was seen when administering peroperative TA. No VTE's occurred in either groups. TA appears to be a positive and safe tool for perioperative hemorrhage control in patients eligible for fast-track metabolic surgery. However, the final results should demonstrate the additional clinical per- and postoperative value of TA administration.

P-120

POST BARIATRIC NUTRITIONAL DEFICIENCIES: IS GASTRIC SWITCH THE ANSWER?

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Bariatric Surgery is being performed over many decades now. The main objective of Bariatric Surgery is weight loss,however in our endeavor to do so we also compromise on the nutritional deficiency to our patients. Long term post-bariatric surgery nutritional imbalances and deficiencies are well known.

Methods:

We have devised a novel technique to reduce the possibility of nutritional deficiencies in our bariatric procedures. Gastric switch surgery.

Technique:

A gastric micro pouch is created (restrictive), the efferent limb is connected back to the remnant stomach at 250-300 cms (Malabsorption). The normal passage is preserved from stomach, duodenum and about 60-100 cms with Jejunoileal anastomosis. In Super obese patients a Fundal excision can be added.

Conclusion:

The gastric exclusion was the main stray in the management of Obesity procedures however it causes severe nutritional complications. This procedure has essence of Gastric bypass, ileal interposition and still preserving some normal physiological passage for the micronutrients to be reabsorbed.

P-121

POST-OPERATIVE EMOTIONAL EATING BEHAVIOR IS A SIGNIFICANT PREDICTOR OF WEIGHT-LOSS EFFECTIVENESS AMONG PATIENTS UNDERGOING BARIATRIC SURGERY

Nutrition, eating behaviors before and after bariatric surgery

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Background:

The predictive value of emotional eating (EE) on weight loss effectiveness after bariatric surgery (BS) remains unclear. In fact, some studies have pointed out that evaluating EE before surgery does not allow to capture patients' flexibility to adapt to changing circumstances after surgery. However, the impact of post-operative EE on weight-loss effectiveness remains scarcely studied.

Objectives:

To study the impact of EE (pre-surgery and 12 months after BS) on weight-loss effectiveness in patients undergoing laparoscopic sleeve gastrectomy.

Methods:

A cohort of 244 patients with severe obesity (72.1% women, age [mean±SD] 47.3±10.74 years; BMI 44.0±5.97 kg/m2) was followed for 1 year after BS. Anthropometric parameters were evaluated and excess weight loss (%EWL) was calculated at 3, 6, 9, and 12 months after surgery. Participants also completed the EE questionnaire pre-surgery and post-surgery (12 months after BS). We then calculated the change in EE scores (pre-surgery vs. post-surgery) and classified this change as "decrease EE" or "maintained/increased EE" using the median as a cut-off point. Linear regression models were used to study the association between EE (pre-and post-surgery) and %EWL. Additionally, general linear models and logistic regressions were performed to compare differences in %EWL as a function of change in EE. All analyses were adjusted for age, and gender, and executed in SPSS V25.

Results:

EE post-surgery was a significant predictor of %EWL (ß= 0.81 [95% CI: –1.36, –0.34]; p=0.001), while EE pre-surgery was not (p=0.981). Furthermore, we observed that participants who decreased EE scores post-surgery showed the highest values of %EWL 6, 9, and 12 months after BS (p=0.025, p=0.008, p=0.006, respectively). Meanwhile, participants who maintained or increased EE scores post-surgery had 2.77 more odds [95% CI: 1.24, 6.16] of being poor weight-loss-responders.

Conclusion:

Our results suggest that postoperative EE behavior is a significant determinant of weight loss effectiveness among patients undergoing BS. Importantly, we observed that from the 6th month after BS, emotional eating could become relevant and influential in the weight loss evolution. We concluded that paying attention to the patient's EE behavior can be key to the success of BS.

P-122

PRE-OPERATIVE MONTREAL COGNITIVE ASSESSMENT (MOCA) SCORE AS A PREDICTOR OF POST-BARIATRIC SURGERY WEIGHT LOSS OUTCOMES

Behavioral, psycho-social and environmental predictors of bariatric surgery outcomes

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Introduction:

Obesity has been associated with adverse neurocognitive outcomes1. Current literature suggests that obesity interacts with age to accelerate cognitive decline2. Therefore, psychological evaluation including cognitive screening measures are essential in providing proper bariatric care. The Montreal Cognitive Assessment (MoCA) has been suggested as the superior method for detecting cognitive impairment within an abbreviated format3. MoCA is beneficial for quantifying bariatric surgery candidates' cognition because it examines domains like executive function and memory and preoperatively can be used for screening1. It is important that clinicians are aware of potential cognitive deficits to better tailor the patient's surgical experience, and to provide adequate follow up and support. This study aims to determine the predictive value of preoperative MoCA scores for post-bariatric surgery weight loss outcomes.

Methods:

Retrospective chart review examined patients with preoperative MoCA scores who underwent bariatric surgery from January 2019-August 2020. This included 13 patients (11 female, 2 male) with an average age of 56 years old. MoCA was administered by a licensed psychologist with a score of <26 indicating cognitive impairment. Primary variables included total months between the initial start date and the surgery date, number of preoperative office visits, preoperative weight, and 3-week postoperative weight. Optimal total number of months to surgery was determined to be less than or equal to 9 months.

Results:

Average MoCA score was 23, suggesting mild cognitive impairment. Average time to surgery was 12 months, and average number of preoperative office visits was 2.5. The 3-week postoperative weight loss was as expected, with an average weight loss of 17.8 lbs. There was no correlation between the amount of weight loss and preoperative MoCA score. Preoperative MoCA score did not affect time to surgery.

Conclusion:

Regardless of preoperative MoCA, our study suggests favorable outcomes. The number of preoperative psychological evaluations was similar in the low and high MoCA score groups. There was no difference in 3-week postoperative weight loss between the groups. This suggests that mild cognitive impairment does not reflect poor postoperative weight loss. As this study's sample size is small, further research is needed to investigate if cognitive impairment impacts weight loss success after bariatric surgery.

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P-123

PRE-OPERATIVE HILL CLASSIFICATION CORRELATES WITH THE DEVELOPMENT OF REFLUX ESOPHAGITIS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Preoperative Hill classification correlates with the development of reflux esophagitis after laparoscopic sleeve gastrectomy

Background:

Laparoscopic sleeve gastrectomy (LSG) is one of the most performed metabolic surgery. However, gastroesophageal reflux disease (GERD) and erosive esophagitis (EE) are potential side effects of LSG.

Objectives:

In this study, we compare the severity of EE on upper endoscopy (EGD), one-year post-LSG versus pre-LSG. Pre-LSG Hill's score was also evaluated to determine its predictive value for the development of post-operative EE. Comorbidities was also compared to evaluate remission post-operatively.

Methodology:

Over a period of 3 years (2018–2021) at Sengkang General Hospital, we retrospectively reviewed a prospectively collected database of a cohort of patients who had LSG with routinely performed EGD pre-operative and 1-year post-operative to assess severity of EE. Patient's demographic, comorbidities, and anthropometric data were analysed. The correlation between endoscopic findings, GERD symptoms and pre-op Hill's score was evaluated using Spearman's ranked correlation coefficient.

Results:

We identified a total of 111 obese patients who underwent LSG at our hospital. 30 patients with pre-LSG and 1-year post-LSG EGD results were included in the present study, 22 (73.3%) of whom were female. The mean (range) age of patients was 38.3 (26–52) years. One year following LSG, the mean percentage body weight loss was 28.8 ± 7.0%. Remission of comorbidities one-year post-LSG, defined as patients not requiring relevant medications, was 4/8 (75%) for diabetes, 5/10 (50%) for hypertension and 4/8 (50%) for hyperlipidaemia. The prevalence of EE on endoscopy increased from 2 (6.7%) to 15 (50.0%) patients, of which 9 (30.0%) were grade A, 4 (13.3%) were grade B, and 2 (6.7%) were grade C (p=0.002). Number of patients with GERD symptoms was 5/30 (16.7%) pre-LSG but 11/30 (36.7%) post-LSG. There was a correlation between pre-LSG Hill's score with EE (p=0.004) but no correlation between post-LSG GERD symptoms with EE (p=0.346).

Conclusion:

Although LSG is effective in treating obesity and its comorbidities, the prevalence of EE increased significantly 1 year after the surgery. Pre-LSG Hill's score can be used to predict for onset of EE. More studies are required to determine optimal surveillance and prevention methods for EE post-LSG.

P-124

PREDICTIVE SCORES/INDEX FOR REMISSION OF TYPE 2 DIABETES MELLITUS

Sleeve gastrectomy

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Background:

Several models have been developed to predict remission of type-2 diabetes mellitus (T2DM) after metabolic surgery. ABCD score and Individualized metabolic surgery (IMS) score were well-known scoring systems, some of which components were factors associated with beta cell function, to predict T2DM remission. Insulinogenic index is a marker of beta cell function to evaluate metabolic status in T2DM patients.

Objectives:

The aim of this study is to estimate the ABCD score, IMS score, and Insulinogenic index for prediction of T2DM remission 3 years after laparoscopic sleeve gastrectomy (LSG).

Methods:

The clinical data for patients with obesity and T2DM, who underwent LSG at Shiga University of Medical Science Hospital between October 2008 and June 2018, were retrospectively analyzed with a 3-year follow-up. The data included demographics, weight metrics, HbA1c, C-peptide, duration of T2DM, insulin use, and a daily dose of insulin. ABCD score, IMS score, and Insulinogenic index were calculated in each patient. Remission of T2DM was defined as HbA1c<6.5% without anti-diabetic agents. ABCD score, IMS score, and Insulinogenic index were compared between remission group and non-remission group by Mann-Whitney U test.

Results:

Of the 20 patients, median age (range) was 51(21-66), female was 65.0%, median initial body weight before LSG was 107.7(83.0-153.2) kg, and median initial body mass index (BMI) before LSG was 40.3(32.4-55.1) kg/m2. Median preoperative HbA1c was 7.3(5.7-12.5)%, median preoperative fasting C-peptide was 2.6(0.6-4.0) ng/ml, median duration of T2DM was 8(0-22) years, median HOMA-IR was 3.2(0.83-5.66), and a number of insulin user was 9(45%). Median ABCD score was 5(1-8) points, median IMS score was 83.5(0-161.6) points, and median Insulinogenic index was 0.30(0.01-0.97). Remission rate after 1 year and 3 years postoperatively were 60.0% (12/20cases) and 50.0% (10/20 cases), respectively. Relapse of T2DM were found in 2 cases. After 3 years, remission group (N=10) had higher ABCD score (6 points vs 3 points, p=0.005) and Insulinogenic index (0.37 vs 0.14, p=0.023), and lower IMS score (49.9 points vs 131.9 points, p=0.023) compared with non-remission group (N=10).

Conclusion:

ABCD score, IMS score, and Insulinogenic index would be useful scores/index to predict remission of T2DM after LSG.

POSTER ABSTRACTS

P-125

PREGNANCY AFTER ENDOSCOPIC SLEEVE GASTROPLASTY: ARE ALL EFFORTS THWARTED? A CASE SERIES

Fertility, pregnancy, nutrition and bariatric surgery

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Background/Introduction:

Endoscopic Sleeve Gastroplasty (ESG) is an organ sparing bariatric procedure aimed to reduce gastric volume and modify gastric motility with full thickness endoscopic suture. Pregnancy is a condition in which physiologically the pregnant woman potentially undergoes weight gain.

Methods:

A retrospective analysis of a prospective database was conducted to evaluate weight trajectories and lifestyle modification in women that got pregnant after ESG.

Weight loss outcomes, evolution of comorbidities (High Blood Pressure [HBP], Hyperinsulinemia [HINS], Type 2 Diabetes [T2DM] and Obstructive Sleep Apnea Syndrome [OSAS]) and Bariatric Analysis and Reporting Outcome System (BAROS) questionnaire were analyzed at the beginning and at the end of the pregnancy and at the first follow-up visit after delivery.

Results:

From May 2017 to October 2021, 228 women underwent ESG in Rome (Fondazione Policlinico Universitario Agostino Gemelli) and nine of them became pregnant after ESG. Another patient got pregnant after ESG in Israel (Hadassah Medical Center).

Out of the total 10 patients (mean age 33,9±6,2 years) got pregnant after the procedure, with a mean interval of 5,8±4,0 months. Baseline BMI was 38,4±3,5 kg/m². Two patients reported H-INS, while another patient had both H-INS and HBP. Two women affected by Poly-Cystic Ovary Syndrome (PCOS) reported difficulty getting pregnant before ESG.

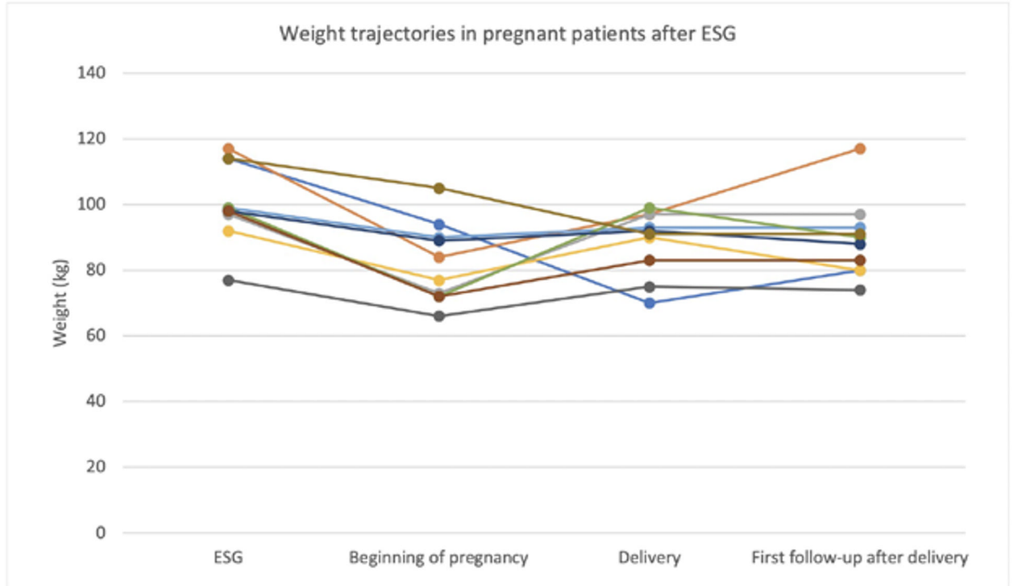
Patients' characteristics at the beginning of pregnancy and at the delivery are summarized in Figure 1. Six out of 10 patients had weight gain in the ranges recommended by the Centers for Disease Control and Prevention.

At the first follow-up visit after the delivery (mean interval, 3,7±2,5 months) the TBWL was 9,9±9,9 %, whereas the BAROS score was 3,5±2,2 (see figure 1).

The patient with H-INS and HBP underwent resolution of her comorbidities both before and during pregnancy. One of the two patients with H-INS had an improvement during gestation, while the second had no changes in her condition.

Conclusion:

Lifestyle changes after ESG do not disappear after pregnancy and allow for a gradual loss of weight gained during gestation. Weight loss following ESG could help those women who have difficult-to-get-pregnancy, such as PCOS.



Graphic 1. Weight trajectories of ten patients that became pregnant after Endoscopic Sleeve Gastroplasty (ESG). At the first follow-up after delivery two patients had regained all the weight lost after ESG, four patients started again losing weight and other four patients had stable weight from delivery.

Population	Weight Loss (kg)	EWL (%)	TBWL (%)	BMI (kg/m²)	Δ BMI (kg/m²))	EBMIL (%)	BAROS	QoL
Beginning of Pregnancy (N=10)	18,3±8,9	55,7±24,6	18,1±8,1	30,9±4,0	6,8±3,2	55,7±24,6	4,8±1,9	2,3±0,7
End of Pregnancy (N=10)	11,4±14,1	30,4,2±37,2	10,4±12,2	33,7±4,5	4,0±4,6	30,4±37,2	3,4±1,7	2,1±0,7
First Follow-up after delivery (N=10)	10,3±11,2	30,5±30,7	9,9±9,9	34,0±5,0	3,7±3,7	30,5±30,7	3,5±2,2	2,1±0,9

Figure 1. Weight outcomes of the ten patients that got pregnant after Endoscopic Sleeve Gastroplasty in Rome (9 patients) and in Israel (1 patients). Data are reported as mean value±Standard Deviation.
Abbreviations: BP=Beginning of pregnancy; EP= End of pregnancy; FU=Follow-up; WL=Weight Loss; EWL= Excess Weight Loss; TBWL= Total Body Weight Loss; BMI=Body Mass Index; EBMIL= Excess Body Mass Index Loss; BAROS= Bariatric Analysis and Reporting Outcome System questionnaire.

P-126

PRUEBA NEUMÁTICA CON ENDOSCOPIA TRANSOPERATORIA VS INSTILACIÓN DE AZUL DE METILENO PARA REALIZAR PRUEBA DE FUGAS EN BYPASS GÁSTRICO EN Y DE ROUX, BYPASS GÁSTRICO DE UNA ANASTOMOSIS Y MANGA GÁSTRICA

Manejo perioperatorio

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Introduccion:

La fuga anastomótica se considera una de las causas más comunes de muerte en paciente sometidos a procedimientos bariátricos. La etiología de las fugas es múltiple, pero generalmente se deben a causas mecánicas, tisulares o isquémicas, que implican un aumento de presión intraluminal que excede la resistencia del tejido que provoca una tensión indebida o torsión del mesenterio.

La fuga de las anastomosis como complicación de un Bypass gástrico, presenta una incidencia informada en grandes series de casos publicados del 0.1% a 8.3%. Para el Bypass gástrico de una sola anastomosis la incidencia publicada es de 1.91% y en el caso de la banda gástrica laparoscópica es del 3.2 al 3.9%.

Objetivos:

Comparar el porcentaje de fugas detectados durante un Bypass Gástrico en Y de Roux, Bypass gástrico de una anastomosis y manga gástrica mediante prueba neumática con endoscopia transoperatoria versus a la instilación de azul de metileno.

Metodos:

Todos los Pacientes que cumplen los criterios para ser sometidos a cirugía bariátrica del Hospital Civil de Guadalajara “Dr. Juan I. Menchaca” del mes de Enero del 2019 al 20 de abril del 2022. Un día previo a la cirugia, de manera aleatoria, se decide si se realiza prueba diagnóstica con Endoscopia o Azul de metileno.

Resultados:

Se incluyeron un total de 85 pacientes en el estudio. 54 pacientes de Bypass en Y de Roux, 18 Bypass Gastrico en Y de Roux, 13 Mangas gástricas. La valoración de fugas se realizó con la siguiente distribución, 36 endoscopias (42.3%) y 49 pruebas con azul de metileno (57.64%). Se detrectaron 7 fugas transoperatorias (8.23%), 1 con endoscopia (2.77%) y 6 mediante azul de metileno (12.24%). Se realizó la evaluación de los pacientes para reportar el desarrollo de complicaciones durante los primeros 30 días de posquirúrgico, se encontro una fuga al día 7 postquirurgico de manga gástrica.

Conclusión:

El objetivo general de este estudio fue comparar el índice de fugas transoperatorias con dos pruebas durante los procedimientos bariátricos. En este estudio encontramos un índice de fugas más alto para la instalación con azul de metileno. Resultando una incidencia mayor que la publicada en la literatura (0.88-2.2%), cabe resaltar que la sede es un hospital escuela, formadora de residentes para la especialidad de cirugia bariatrica, por lo que la incidencia puede estar elevada por esa razón.

P-127

RELATIONSHIP BETWEEN BASELINE INFLAMMATORY PARAMETERS AND POSTOPERATIVE WEIGHT LOSS 2 YEARS AFTER SLEEVE GASTRECTOMY

Sleeve gastrectomy

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Background/introduction:

In Japan, laparoscopic sleeve gastrectomy (LSG) has been covered by the government health insurance since 2014, and the number has increased. Recently, the relationship between preoperative inflammatory parameters such as neutrophil/lymphocyte ratio (NLR) and diabetes remission or weight loss after bariatric surgery has been reported.

Objective:

To investigate the relationship between preoperative inflammatory parameters and diabetes remission or weight loss 2 years after LSG. Methods: Sixty-two obese patients who underwent LSG in our institute and were followed for more than 2 years after surgery were enrolled in this study. The average weight at the first visit was 121 kg, BMI 45 kg/m2, C-reactive protein (CRP) 0.69 mg/dl, and NLR 2.06. Diabetes was concomitant in 35 patients. Regarding the procedure of LSG, a 32 Fr endoscope was used instead of a bougie, the stomach was resected using endoscopic linear staplers, and the staple lines were oversewn manually.

Results:

The weight loss, percent excess weight loss and total body weight loss (%TWL) from the first visit to 2 years after operation were 38kg, 68%, and 31%, respectively. Diabetes remission (HbA1c <6.5% without drug) was observed in 30 of the 35 patients (86%). Preoperative CRP and NLR were well correlated, and significant positive correlations between weight loss and CRP or NLR, and between %TWL and CRP were recognized. In patients with diabetes remission, CRP values were significantly higher, but NLR values were not different between remission and non-remission cases.

Conclusion:

In patients with elevated inflammatory parameters before surgery, better weight loss and higher diabetes remission after LSG may be expected.

P-128

RELATIONSHIP OF BODY IMAGE WITH THE AGE OF ONSET OF OBESITY IN PATIENTS ELIGIBLE FOR BARIATRIC SURGERY

Nutrition, eating behaviors before and after bariatric surgery

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Obesity is a chronic disease of metabolic origin, which can trigger several pathologies. Dissatisfaction with body image can be considered a distortion of body image (BI) and comprises the perception of the body itself as bigger, heavier or smaller, lighter than it really is, and is generally associated with low self-esteem, depression and eating disorders, condition that can directly influence the health of individuals.

Objective:

To evaluate the perception of body image and its relationship with the age of onset of obesity in patients in the preoperative period laparoscopic Roux-en-Y Gastric Bypass (LRYGB).

Methods:

Observational cross-sectional study composed of 173 obese individuals from a private clinic in southern Brazil who were in the preoperative period of bariatric surgery (BS). Data collection was performed at the time of the consultation with the nutritionist, using the Scale of Silhouettes Adapted for Brazilian Adults proposed by Kakeshita et al., Where the perception of BI was classified as: there is no distortion of BI, there is distortion of BI (overestimate or underestimate). The age of onset of obesity was classified into phases: childhood, adolescence and adulthood. The other data were collected through the analysis of the patients' medical records. To assess the significant influence of age at onset of obesity on the perception of BI, a Chi-square test ($p<0.05$) and correlation using Odds Ratio were performed. The study was approved by the Research Ethics Committee of the PUCRS (3,118,429) and individuals invited to participate signed the Free and Informed Consent Form.

Results:

The mean age of the patients was 38.0 (± 10.6) years, with 125 patients (72%) being female and 48 (28%) male. The mean BMI value was 43.3 (± 6.5) kg/m². As for the distortion of BI, 11.8% did not present distortion and 88.2% presented distortion of BI (where 62% overestimated and 38% underestimated the perception of body image). As for the onset of obesity were in childhood (33.8%) adolescence(21.9%) and adulthood (44.3%).The P-value between body image distortion and the onset of obesity was P= 0.1847 and OR was r= -6.345459. Conclusion: We can conclude that patients with obesity in the preoperative period of BS presented distortion in their BI, and the age of onset of obesity in these patients did not significantly influence the formation of the distortion. older patients who started obesity, had a higher level of BI distortion, among the studied patients.

Conclusion:

We can conclude that patients with obesity in the preoperative period of BS

presented distortion in their BI, and the age of onset of obesity in these patients did not

significantly influence the formation of the distortion. older patients who started obesity, had a

higher level of BI distortion, among the studied patients.

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POSTER ABSTRACTS

P-129

RENAL CELL CARCINOMA AND BARIATRIC SURGERY

Bariatric surgery and cancer

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Introduction:

Obesity is linked with an increased risk of comorbidities such as T2DM, hypertension, cardiovascular diseases, dyslipidemia, among others. An elevated risk for malignant diseases has also been reported. Cancer rates and mortality in people with obesity have proved to be higher than general population, with a reported incidence rate of 1.07 cases per 1000 person-years.

Renal cell carcinoma (RCC) and renal pelvic cancer account for 2-3% of all cancers. Several studies have established the relation between obesity and RCC, with a relative risk of 2.5 for men and 3.3 for women.

Bariatric surgery (BS) has proven to be the more effective treatment for obesity and associated metabolic diseases. History of malignancy does not seem to be a contraindication for BS as long as life expectancy is reasonable and the appropriate follow-up evaluations have been performed defining the type and stage of the malignancy, the risk of recurrence, and life expectancy.

Controlling overweight through surgical treatment could lead a dropdown in cancer recurrence rate in those patients.

Methods:

We report a case of a 41-year-old female with a BMI of 52.4 (height of 170 cm, weight of 151 kg). Her past medical history was positive for 5 years of T2DM, dyslipidemia, moderate OSA, arthralgia and smoking. She presented a renal cancer several months before her bariatric surgery. Diagnosis was made by ultrasound examination and confirmed by computed tomography and magnetic resonance. Radical nephrectomy with a trans-peritoneal approach was performed. Pathology report confirmed clear renal cell carcinoma (pT1a). Surgical margins were negative.

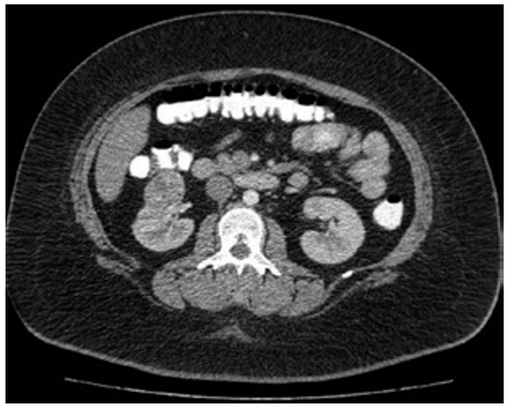
After 14 months patient was referred again to our team for obesity treatment. An intensive multidisciplinary approach was required due to a poor glycemic control and OSA syndrome diagnosed during her workup. A specific assessment of patient's immunological, metabolic, and nutritional status was carried out to establish whether she was candidate for BS.

Results:

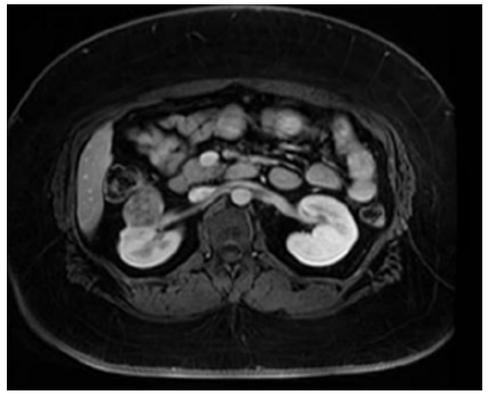
Laparoscopic Roux-en-Y gastric bypass was performed. Patient started with liquid diet 6 hours after surgery, and she was discharged home at second postoperative day without any complication.

Conclusions:

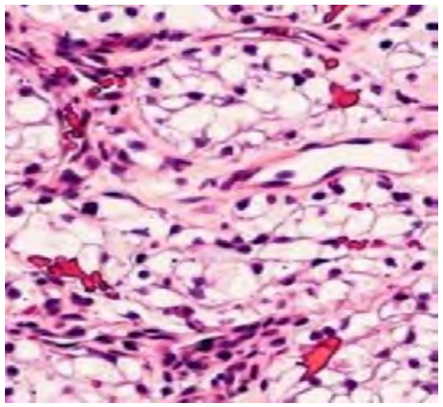
Bariatric surgery can be safely performed in a patient with Obesity, history of renal cancer and nephrectomy. Treatment of Obesity can help to reduce the recurrence rate in this population.



Pathological report



Computed tomography



Magnetic resonance

P-130

REPORTE DE CASO: MANGA GÁSTRICA LAPAROSCÓPICA REMISIÓN DE DIABETES MELLITUS TIPO 2 INSULINO DEPENDIENTE HALLAZGO DE TUMOR HEPÁTICO EN SU SEGUIMIENTO

Cirugía bariátrica y cáncer

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Introducción:

Reporte de caso, paciente femenina de 51 años con obesidad grado I, DM2 de 15 años de evolución con 13 años insulino dependiente no controlada, es operada de manga gástrica laparoscópica, presentando remisión de su diabetes tipo 2 en su seguimiento multidisciplinario. En su cuarto control (sexto mes postoperatorio) se encuentra hemangioma hepático por ultrasonido, al cual se le da seguimiento estrecho por 4 años presentando aumento de tamaño por lo que se envía a cirugía hepatobiliar diagnosticando cáncer hepatocelular, manejada con hepatectomía derecha exitosa presentando recidiva de estirpe sarcoma.

Objetivos:

El objetivo del reporte de este caso es presentar nuestra experiencia preliminar en el seguimiento postquirúrgico y multidisciplinario con una evolución favorable en la remisión de su obesidad y enfermedades asociadas, con el hallazgo de una lesión hepática derecha por ultrasonido tipo hemangioma corroborada por tomografía trifásica hepática y resonancia magnética, en su sexto mes postoperatorio y luego de manera semestral por cuatro años. presentó aumento de tamaño de 1 cm, encontrando imágenes compatibles con probable cáncer hepatocelular, referida a cirugía hepatobiliar donde dan manejo quirúrgico exitoso, presentando posteriormente recibida de tipo sarcoma.

Metodos:

Al consultar con equipo multidisciplinario de la unidad quirúrgica avanzada en el área de cirugía obesidad y digestiva donde después de ser evaluada por las distintas especialidades que lo integran (Nutrición, Cirugía Bariatrica, Psicología, Endocrinologia, Cardiologia etc.) y estudiada con los exámenes correspondientes (sangre, Endoscopía, Radiología, etc) se determina que la paciente es candidata a Cirugía Bariatrica y Metabolica con el fin de mejorar tanto su patología de base y enfermedades asociadadas.

Caso Clinico:

- Femenina de 51 años, Obesidad grado 1 (IMC 33.3 kg/m2: Kg: 90, Talla: 1.69 m2). Carga genética de HTA, DM2, Ca Mama.
- Hipertensa con 15 años de evolución tratada con losartan, amlodipino, atenolol, hidroclorotiazida.
- Diabética tipo 2 con 15 años de evolución manejada con metformina 850 mg al día por 2 años sin control, posteriormente Insulina de acción rápida 46 ui por la mañana y 46 ui por la noche sin control adecuado.
- Antecedente quirúrgico:
- Cesárea.
- Oclusión tubo ovárica.
- Apendicectomía laparoscópica más laparoscopia diagnóstica (observan hígado con características micronodulares; realizan biopsia hepática, la cual reporta: “fibrosis hepática a determinar etiología” sin alteración en PFH.
-

Estudios del protocolo preoperatorio para manga gástrica:

- Hígado graso severo por ultrasonido hepatobiliar.
- Pruebas de funcionamiento hepático, Tiempos de coagulación, Electrolitos séricos, Electrocardiograma y Tele de tórax sin alteración.
- Endoscopia Digestiva alta con biopsia sin alteración.
- Fibrosis hepática por biopsia en apendicectomía previa.
- Hb: 14, Hto: 44, Plaq: 189 000, Glucosa: 67, Urea: 30, Crea: 0.9
- Hb1ac: 11, Peptido c de insulina: 4, TSH: 2.97

Realizamos Manga gástrica laparoscópica en posición francesa, 4 puertos y separador hepático tipo nathanson, disecando curvatura mayor de estómago hasta liberar todo el Ángulo de hiss, como a 2.5 cm del píloro, calibrando curvatura menor de estómago con sonda 36 Fr hasta duodeno, usando grapa negra en antro gástrico y 4 cargas moradas de 60 mm articulables todas reforzadas hasta terminar gastrectomía vertical en manga, realizando prueba azul de metileno negativa en UGE y línea de grapas, se realiza biopsia transoperatoria hepática con tijeras. Posterior a ello se realiza hemostasia y lavado prolijo, dejando drenaje cerrado en UGE y línea de grapas con salida en flanco derecho fijado a piel por 7 días.

Resultados:

Control de 1 mes posoperatorio:

- MC 27.2 kg/m2 - Peso perdido: 12 kg
- DxTx: 128 gr sin usar insulina solo metformina 500 mg cada 24 hrs.
- Normotensa; se suspende Antihipertensivos por eventos de hipotensión y vértigo.
- Biopsia hepática Transoperatoria:
- Fibrosis hepática grado 3 - Esteatosis Hepática Macronodular y Micronodular.
- Hepatitis crónica inactiva.

Control en el 3 mes postoperatorio:

- Ultrasonido Hepatobiliar: Hemangioma de 2 x 2 cm en lóbulo derecho.
- Laboratorio sin alteración. - Hb1ac: 8.1

Control 6 mes postoperatorio:

- Ultrasonido Hepatobiliar: Hemangioma de 4 x 2.4 cm en lóbulo derecho por lo que se solicita TAC trifásica hepática.

Control 15 meses postoperada acude a control con su tac trifásica de hígado:

- Imagen oval parcialmente definida, hipodensa, al parénquima hepático fase simple con reforzamiento periférico y centrípeto en fase portal y tardía.
- Dimensiones de 2.5 x 2 x 1.8 cm en sus ejes transversos.
- Reportando imagen Hemangioma Hepático en Segmento VIII.
- Laboratorios:
- TSH: 2.5. - Glucosa: 85. - Insulina en ayunas: 5.20. - HOMA: 1
- Hb1ac: 6.2 - Péptido c Insulina: 1.85.

Control 26 meses Postoperada con RM de hígado:

- Lesión tumoral benigna con contraste de lóbulo derecho hepático el cual es hipertenso en T2 con focos hipointensos en su interior lo cual corresponde a reforzamiento periférico y centro, opacificación en fase tardía un hemangioma hepático con datos de sangrado leve 3.4 x 3.7 cm

Conclusion:

Dos años posteriores al último control y 42 meses de postoperada, acude con sensación de pesantes en hipocondrio derecho y ultrasonido de control con aumento de volumen:

Hemangioma de 84 x 112 x 64 mm.

Motivo por el cual es enviada a la unidad de cirugía hepatobiliar, donde se realiza protocolo diagnóstico y tratamiento; realizando hepatectomía derecha abierta exitosa, presentando recidiva de probable sarcoma.

Esto nos obliga a ser más proactivos en casos de lesiones benignas.

Foto de la lesión y la pieza quirúrgica asi como la de RM y TAC trifásica estará en poster.

P-132

REVISIONAL BARIATRIC SURGERY: ONE YEAR EXPERIENCE IN A BARIATRIC SURGERY TRAINING CENTER
Revisional surgery

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Introduction:

If we are going to consider bariatric surgery as a long term treatment for obesity, we must contemplate the need of a surgical conversion, correction or reversion, and even an adjuvant treatment that may potency the results in the case of weight regain, inadequate weight loss (malnutrition, metabolic disorders) persistent comorbidity and/or any possible complication of the primary bariatric surgical procedure.

In bariatric surgery there is no general consensus in the definition of weight loss failure, most studies define it as an excess weight loss (EWL) of less than 50% in the initial 18 months, and 25% EWL or less in the case of the LAGB. As most patients are not able to maintain EWL > 50% in the long term, some authors are seeking for new definitions for "failure." It has also been considered as failure of the procedure when there is no resolution of comorbidities, which is in the minority of the cases.

The rate of failure in long-term weight loss varies among each procedure; in the case of the LAGB up to 75% and 80% at 3 and 5 years, laparoscopic sleeve gastrectomy (LSG) 3% , 9%, 16% and 30.4% at 1, 2, 3, and 5 years , Roux-en-Y gastric bypass (RYGB) 10% and 15% at 3 and 5 years and biliopancreatic diversion with duodenal switch (BPD-DS) 9% and 6% at 1 and 2 years. Due to the increase of bariatric procedures performed worldwide, revisional surgery has parallel increased. In 2019 the ASMBS reported the rate for revisional bariatric surgery at 16.7%.

Revisional surgery is classified according to their therapeutic approach.

- Conversion procedures: when the primary surgical procedure is completely changed to a different one. Example: Failed AGB converted to RYGB

- Correction procedures: those addressed to treat complications of the primary surgical procedure. Example: anastomotic ulcer of a gastric bypass, stenosis or gastric fistula in a sleeve gastrectomy, or in the case of non satisfactory weight loss with the primary surgical procedure. Example: Dilation of the gastric sleeve corrected to re-sleeve; RYGB with weight regain corrected with distalization.

-Reversion procedures: Those aimed to restore the original anatomy of the digestive tract. Example: Cases of severe malnutrition, severe anemia or hypoglycemia due to nesidioblastosis.

It has been reported that revisional surgery leads to a higher morbidity and mortality rate in comparison to primary surgery, some studies report morbidity up to 50% and a mortality from 2.7 to 8.3%.

Objectives:

The objective of this study is to report our experience in revisional surgery in our bariatric surgery training center, determine which procedures were the most revised and which revisional surgical procedure was performed, in addition, report early morbidity and mortality (30 days postoperative).

Methods:

From June 2017 through May 2018, we performed 183 bariatric surgeries, of which 30 were revisional surgeries due weight loss failure or weight regain, we defined failure as weight loss of less than 50% of excess body weight at 18 months after the primary surgical procedure. All of the procedures were performed in an Advanced Laparoscopic and Bariatric Surgery Training Center. All patients were evaluated by our multidisciplinary team. Informed consent was obtained in all cases. Prior surgery, patients underwent a contrast upper gastrointestinal tract fluoroscopy and in selected cases we also performed an endoscopy study. A preoperative diet was also prescribed and complementary studies were requested to optimize the patient's conditions prior surgery. We administer prophylactic antibiotic (cephalothin or levofloxacin if allergic patients). Thrombus prophylaxis was performed with gradual compression stockings or pneumatic compression in patients with super obesity during surgery and applying low molecular weight heparin postoperative.

Surgical interventions were performed in a single time when patients conditions allowed or in a second surgical time if required. (Table 1).

Table 1. Revisional surgery in 1 year (June 2017 to may 2018)

Total of bariatrics surgeries	183
Revisional surgeries	36 (19.6%)
Adjustable gastric banding review	12 (33.3%)
Gastric bypass review	10 (27.7%)
Sleeve gastrectomy review	10 (27.7%)
Vertical banded gastroplasty review	3 (8.3%)
Gastric plicature review	1 (2.7%)

Our data analysis included: Demographic and clinical characteristics of the patient (age, gender, BMI), comorbidities such as diabetes, hypertension, gastroesophageal reflux, sleep apnea and dyslipidemia, as well as surgical history. These data were collected prospectively during the preoperative evaluation.

In patients that underwent sleeve gastrectomy revisional surgery, we used a 36 Fr calibration tube, directed towards the pylorus on the minor curvature. Black and green GIA cartridges were used. In all cases the staple line was reinforced with absorbable monofilament suture. In patients undergoing revisional RYGB, a 40 Fr calibration tube was used in the gastric pouch and a 32 Fr calibration tube was used in the gastrojejunal anastomosis, all staple lines were reinforced with absorbable monofilament suture. Yellow cartridges were used in the gastric pouch and blue cartridges in the gastrojejunal anastomosis and in the Roux Y. A 150cm biliopancreatic limb and a 100cm alimentary limb were performed. Single anastomosis gastric bypass was performed using the same cartridges for the gastric pouch and the gastrojejunal anastomosis, we made a 200cm biliopancreatic limb for patients with morbid obesity and a 250cm biliopancreatic limb for patients with super obesity. In the case of the single anastomosis duodeno ileal bypass (SADI) we used black or green cartridges for the sleeve, and blue cartridges for the duodenum-ileal anastomosis, which was made 250cm from the ileocecal valve. In all cases we performed intraoperative the methylene blue dye leak test and a drainage was placed, 48 hours postoperatively a contrasted upper gastrointestinal fluoroscopy test was performed to verify anatomy and discard leaks and obstruction. Patients were discharged average on postoperative day 2 and 6.

Perioperative data that included early complications were also obtained. This information was collected from the medical file and from telephone and email follow up. The information was registered in a database and reviewed prospectively. Continuous variables are expressed in terms of mean and ranges. Category variables, as well as complications, are expressed as numbers and percentages.

Results:

Thirty-six revisional surgeries performed laparoscopically during the study period, 30 patients underwent revisional surgery due to weight loss failure (and 2 with Gastroesophageal Reflux Disease), 4 due to Gastroesophageal Reflux Disease (GERD) only, 1 due to nutritional complications, 1 due to dysphagia. 26 females (72.2%) and 10 males (27.7%) were included in this study. Group median age 49.7 years (29-69 years), Median BMI in the group was 41.2 kg/m2 (30–64 kg/m2). Period between primary surgery and revision surgery median 10.7 years (2-25 years). Patients reported a median weight loss of 34kg (18-48 kg) as a maximum weight loss, and a median EWL 46.5% (38-66%) after the primary procedure. By the time of the revisional surgery all patients had weight regain and a decrease in the percentage in the EWL to less than 50%, a median of 22% (2-48%). 23 procedures of conversion, 10 correction procedures, 1 without modification of the primary procedure due to a difficult abdominal cavity and 2 reversion surgery.

Table 2.

FIRST SURGERY	NO. CASES	CONVERSION	CORRECTION	REVERSION	NO MODIFICATION OF PROCEDURE
ADJUSTABLE GASTRIC BANDING	12	6 LSG 5 RYGB/MINI	1 LAGB REMOVE	DNA	DNA
VERTICAL BANDED GASTROPLASTY	2	1 RYGB/MINI 1 LSG	DNA	DNA	DNA
SLEEVE GASTRECTOMY	10	1 SADI 5 RYGB/MINI	4 RE-LSG	DNA	DNA
GASTRIC PLICATURE	1	1 LSG	DNA	DNA	DNA
GASTRIC BYPASS	11	3 DISTALIZATION	5 REMODELING RYGB	2 BACK TO NORMAL ANATOMY	1 UNRECOGNIZABLE ANATOMY

In regards complications, there was one leak in the gastro-jejunal anastomosis, resolved with reintervention in the first 48 hrs after surgery, with satisfactory evolution, and one atelectasis. No case of thrombosis and no Gastroesophageal symptoms GERD were identified after the procedure. All patients had a 2-6 days hospital stay, with a median of 2.5 days.

Conclusions:

Revisional bariatric surgery has increased in the last years. Due to its complexity, challenges in surgical skills, abilities and experience of the surgical and medical group and requires an adequate adhesion of the patient for the follow up by the multidisciplinary team. It's not defined which is the best surgery procedure to perform in all cases, that's why more long term studies, with good monitoring and follow up are required. It is recommended that revisional bariatric surgery be performed only by specialized and certified centers with less cost, morbi-mortality and Hospital length of stay.

P-133

REVISIONAL SURGERY OF ONE ANASTOMOSIS GASTRIC BYPASS FOR SEVERE PROTEIN-ENERGY MALNUTRITION

Pre and post nutritional deficiencies

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Background:

One anastomosis gastric bypass (OAGB) is safe and effective. Its strong malabsorptive component might cause severe protein-energy malnutrition (PEM), necessitating revisional surgery. We aimed to evaluate the safety and outcomes of OAGB revision for severe PEM.

Methods:

Single center retrospective analysis of OAGB patients undergoing revision for severe PEM (2015-2021). Perioperative data and outcomes were retrieved.

Results:

Ten patients underwent revision for severe PEM, and our center`s incidence is 0.63% (9/1425 OAGB). All patients were symptomatic, the median (interquartile range) EWL and lowest albumin were 103.7% (range 57.6, 114) and 24 g/dl (range 19, 27), respectively, and 8/10 had significant micronutrient deficiencies. Before revision, nutritional optimization was undertaken. The median OAGB to revision interval was 18.4 months (range 15.7, 27.8). Median BPL length was 200 cm (range 177, 227). Reversal (n=5), BPL shortening (n=3), and conversion to roux-en-Y gastric bypass (n=2) were performed. One patient had anastomotic leak after BPL shortening. No death occurred. Median BMI and albumin increased from 22.4 kg/m2 (range 20.6, 30.3) and 35.5 g/dl (range 29.2, 41) at revision to 27.5 (range 22.2, 32.4) kg/m2 and 39.5g/dl (range 37.2, 41.7) at follow-up (median 25.4 months, range 3.1, 45). On univariate analysis, PEM resolution was significantly correlated with the revision type.

Conclusion:

Revisional surgery of OAGB for severe PEM is feasible and safe after nutritional optimization. Our results suggest that the type of revision may be the most important factor for PEM resolution. Comparative studies are needed to better define the role of each revisional option.

P-133.1

RESOLUTION OF DIABETES POST ROUX-EN-Y GASTRIC BYPASS IN A DEDICATED BARIATRIC CENTER- MEDIUM TERM RESULTS

Type 2 diabetes and metabolic surgery

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Background:

Roux en Y gastric bypass (RYGB) is known to ameliorate Type 2 Diabetes Mellitus (T2DM) in morbidly obese patients. We aimed to determine both the reduction in the glycosylated hemoglobin (HbA1c) and the number of anti-diabetic medications (including insulin) in diabetic patients undergoing RYGB over a five year period.

Methods:

We reviewed data of patients who underwent RYGB from January 2012 – December 2017, including those who were diabetic and had a minimum of a two year post-operative follow up (n=47). Preoperatively, BMI, HbA1c and the number of anti-diabetic medications and the duration of T2DM since diagnosis were recorded. These measurements were repeated at the end of the two year follow up.

Results:

At the time of enrolment in the bariatric programme, the median BMI was 42.5 (range, 31.7-61.5) kg/m2, mean duration of T2DM was 58 months and median HbA1c was 59 (37-118) mmol/mol. The mean number of anti-diabetic medications taken, including insulin, was 2. At the end of 2 year follow-up, the median BMI was 32 (range, 24-41) kg/m2 and HbA1c was 41(range, 33-91) mmol/mol. 15 patients (31.9%) still required anti-diabetic medication, 12 of whom had a diagnosis of T2DM for 3 years or more at time of enrolment.

Conclusion:

RYGB is strongly associated with a resolution of T2DM in morbidly obese patients. In those who were not resolved, the number of anti-diabetic medications taken and HbA1c were reduced. The impact of the surgery is dependent on the duration of T2DM since diagnosis preoperatively.

Characteristic	Pre-operative [Mean(range)]	Two year follow-up [Mean(range)]	P value
BMI (kg/m2)	42.5 (31.7-61.5)	32 (24-41)	<0.001
HbA1c (mmol/mol)	59(37-118)	41 (33-91)	<0.001
Anti-diabetic medications	2	0.4	<0.001

Table 1 - Table of demographics, showing the change in BMI, number of medications and HbA1c over the two year follow-up. All three markers were found to be reduced, with the mean BMI decreasing by 9.5kg/m2, mean HbA1c by 18 mmol/mol and number of anti-diabetic medications reduced by 1.6.

P-134

ROBOTIC BARIATRIC SURGERY IN ECUADOR: INITIAL EXPERIENCE IN A PRIVATE HOSPITAL

Robotic bariatric surgery

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Background:

Robotic surgery has revolutionized surgical practice by increasing visualization of the surgical field, reducing tremor, and allowing for greater freedom of wrist and hand movement. However, increased costs and surgical time may account for the slow rise of robotic surgery cases in Latin-American developing countries. In the private medical sector patients have to assume the full cost of the surgery, surgeons have to pay for training, and hospitals have to justify the high costs of maintaining the robotic platform.

Objectives:

To report the first experience of robotic bariatric surgery in a private hospital in Ecuador.

Methods:

A retrospective study was conducted at a national reference private hospital in Quito, Ecuador. All patients who underwent robotic bariatric surgery from 2019 to 2021 were included. We retrieved demographic and intraoperative data, complication rates, and 1-year outcomes.

Results:

Six cases of robotic bariatric surgery were performed. 50% of patients were females, the mean age was 40 years (SD ± 14.2), and the mean BMI was 32.7 kg/m2 (SD ±10.1). 83% of patients had one or more comorbidities like diabetes mellitus (66%) and hypertension (50%). The two vertical gastrectomies had a mean surgical time of 150 min (SD ± 25.0) and a mean intraoperative bleeding volume of 100ml (SD ± 50.0). The remaining four cases were Roux-en-Y gastric bypass (RYGB) procedures, with a mean surgical time of 212.5 min (SD ± 38.9) and a mean intraoperative bleeding volume of 15ml (SD ± 18.3). A hiatal hernia repair was done in two of the RYGB cases and one case of revisional surgery. No complications were reported in the first 30 postoperative days. One patient (16%) was lost to follow up, and the other five (83.3%) had at least one follow up session within the first year. The mean postoperative BMI was 30.7 kg/m2 (SD ± 10), with an %EWL of 62.5% (SD ± 27.4) and a %TWL of 12.7% (SD ± 9.1).

Conclusion:

To the best of our knowledge, there is no previous report on robotic bariatric surgery in the private sector in Ecuador. Robotic bariatric surgery seems to be a safe approach with relatively low complication rates and good one-year outcomes. Additional studies are needed to assess the cost-effectiveness of this technology in the private sector of developing countries.

P-135

ROBOTIC SLEEVE GASTRECTOMY WITH REFLUX PROTECTION

DRGE e a manga - Como gerenciar

C. Aquino, F. Mota, F. Pereira.

Metabolic Surgery Hospital Israelita Albert Einstein, São Paulo, Brazil.

Introdução:

O Video Mostra Uma Gastrectomia Vertical Totalmente Robótica (Plataforma Davinci Xi) Com Uma Pequena Válvula (Lind) Para Proteção Ao Refluxo Gastroesofágico.

P-136

ROBOTIC VERSUS LAPAROSCOPIC SLEEVE GASTRECTOMY: WEIGHT AND BMI LOSS

Robotic bariatric surgery

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Introduction:

Obesity is a highly prevalent disease throughout the world. Recently, sleeve gastrectomy (SG) has become a popular technique due to low morbidity rate and adequate weight loss. Robotic approach is getting an essential tool in order to decrease, even more, complications in comparison with conventional laparoscopy.

Objectives:

Our aim is to compare anthropometric variables (initial weight and body mass index) and weight and body mass index loss, one year after the procedure, of those patients who underwent either laparoscopic or robotic SG.

Methods:

Weight and body mass index loss of patients undergoing laparoscopic and robotic SG were prospectively analyzed. We compared results obtained one year after the intervention, in terms of percentage of excess weight loss (%EWL) and percentage of excess body mass index loss (%EBMIL).

Results:

Hundred nine patients were analyzed. Those operated with robot had a higher preoperative BMI (47,94 kg/m2 vs 45,02 Kg/m2 for laparoscopy, p=0.026) and higher preoperative weight (131,32 kg vs 119,74 for laparoscopy, p=0.011). However, %EWL (69.01% vs 71.87% for laparoscopy, p=0.469) and %EBMIL (67.89% vs 71.97% for laparoscopy, p=0.321), one year after the procedure, were similar in both groups.

Conclusion:

We obtained, in our sample of patients, that robotic group patients had higher initial weight and body mass index. However, no significant differences between robotic and laparoscopic groups, in terms of %EWL and %EBMIL, were observed.

RELEVANT VARIABLES – RSG v.s LSG			
Initial BMI	RSG	47.94 Kg/m2	p = 0.026
	LSG	45. 02 Kg/m2	
Initial weight	RSG	131.32 Kg	p = 0.011
	LSG	119.74 Kg	
Weight at 12 moths	RSG	89.19 Kg	p = 0.043
	LSG	81. 76 Kg	
BMI at 12 moths	RSG	32. 61 Kg/m2	p = 0.083
	LSG	30. 68 Kg/m2	
%EWL	RSG	69. 01%	p = 0.469
	LSG	71. 87%	
%EBMIL	RSG	67.89%	p = 0.321
	LSG	71.97%	

P-137

ROLE OF BARIATRIC SURGERY IN OBESE CANCER PATIENTS: ONE-TWO YEAR OUTCOMES OF COLORECTAL CANCER PATIENTS WHO UNDERWENT BARIATRIC SURGERY PRIOR TO SURGICAL RESECTION

Impact of bariatric surgery on other surgical outcomes- transplant ortho and hernia

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Introduction:

Obesity is a risk factor for many chronic physical conditions, often exacerbates severity of comorbidities, and is associated with poor health outcomes [1,2]. It is seen in 20% of cancer patients, presenting challenges in diagnosis and treatment. Increasing incidence of obesity-related cancers calls for review of current practice to improve patient outcomes.

The role of bariatric surgery in obese cancer patients is not well defined. Rapid weight loss may benefit outcomes in those undergoing neo-adjuvant chemoradiation to prevent delay of surgical excision.

Objectives:

Here we present 1-2 year outcomes of obese colorectal cancer patients who underwent simultaneous neo-adjuvant treatment and weight-loss surgery prior to surgical resection.

Methods:

Retrospective case series from a high-volume NHS-centre reviewed data from Colorectal and Bariatric multi-disciplinary team (MDT) meetings 2015-2021.

Results:

3 of 5 colorectal cancer patients (2 rectal, 2 sigmoid, 1 caecal) referred for bariatric surgery underwent laparoscopic sleeve gastrectomy (LSG), as 2 were unfit, followed by 1 laparoscopic low anterior resection with defunctioning loop ileostomy for rectal cancer and 2 laparoscopic anterior resections for sigmoid cancer.

Patient demographics: 2 females, 51 yrs mean, BMI range 49.06-57.41 kg/m2 at cancer diagnosis. Weight loss post-LSG averaged 28.2 kg (21.6-35.2 kg) with BMI range 39.67-46.54 kg/m2.

Cancer resections performed 4-6 months post-LSG were complete, with hospital stay 6-8 days, and 1 complication of transient ileostomy obstruction. At 1-2 yr follow-up, patients demonstrated further weight loss averaging 51.1 kg (17.5-72.8 kg)with BMI range 27.35-42.45 kg/m2.

Conclusion:

Internal referral rates for Bariatric Surgery in cancer patients is low. Criteria from Colorectal MDT is BMI >45 kg/m2 and likelihood of stoma formation to protect anastomoses from leaks.

Weight loss offers benefits, including better access for tumor resection and stoma formation as well as improved wound management particularly in open resections. All 3 cases here were successful in weight loss and cancer outcomes.

We suggest criteria for referral of obese cancer patients to Bariatric Surgery should follow standard NHS criteria of BMI >40 kg/m2 or >35 kg/m2 with comorbidities. Large-scale well-designed studies will evaluate short and long-term outcomes of managing co-existing cancer and obesity.

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POSTER ABSTRACTS

P-138

ROUX-EN-Y GASTRIC BYPASS (RYGB) FOLLOWING BILATERAL SEQUENTIAL LUNG TRANSPLANT (BSLT): CASE REPORT

Pre and post transplantation and bariatric surgery

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Background:

Obesity and gastroesophageal reflux disease are independent risk factors for graft dysfunction following lung transplant surgery (LTS). Multiple studies have reported successful enrollment of patients for LTS following bariatric surgery (BS), however, there is limited data on BS outcomes after LTS. To our knowledge, only one case report has been published in the literature describing RYGB following BSLT.

Objective:

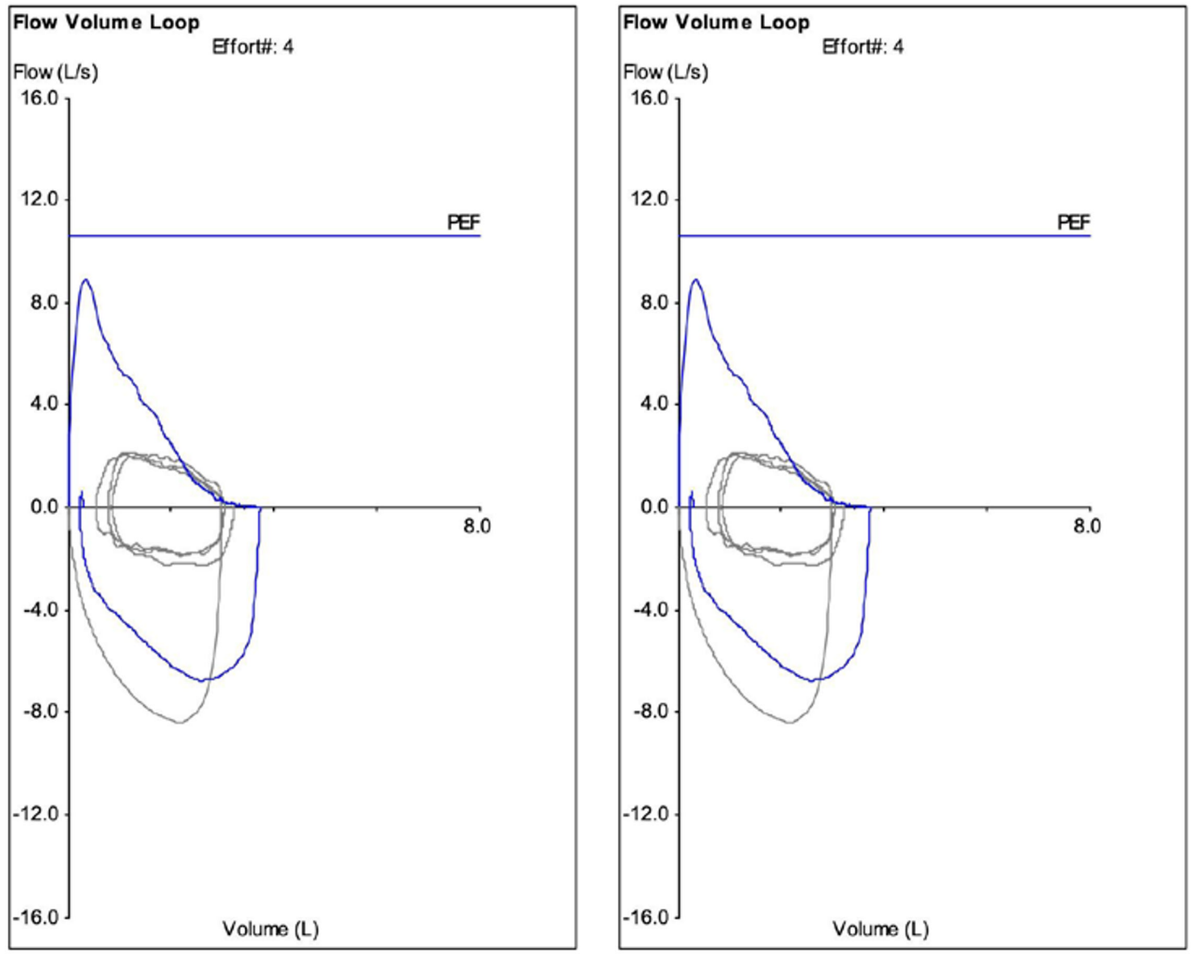
To report a case of morbid obesity five years after previous BSLT in a patient who underwent RYGB. Postoperative impact on obesity-related comorbidities as well as pulmonary function is discussed. Methods: A 38-year-old male with BSLT secondary to idiopathic nonspecific interstitial pneumonia, presented to our metabolic surgery clinic for evaluation following multiple failed attempts at medical weight loss. Medical history is significant for steroid-induced diabetes mellitus, obstructive sleep apnea and hyperlipidemia. The patient weighed 133 kg, with a BMI of 41.2 kg/m2. He required 3 medications to maintain his HbA1c at 5.7 from 10.0 mg/dl. Pulmonary function tests (PFT) showed a restrictive pattern. Functional vital capacity (FVC) was 3.7 Liters (L) (range 4.6-5.6) and forced expiratory volume in one second (FEV1) was 2.7 L (3.6-4.5) and the FEV1/FVC ratio was 91 (70-80). A multidisciplinary team driven decision was made to proceed with a laparoscopic RYGB for the patient, given the more protective anti-reflux operation and his preexisting metabolic syndrome. 150 cm Roux limb and 150 cm biliopancreatic limb was performed without intraoperative complications.

Results:

The patient had an unremarkable postoperative course and was discharged on postoperative day 3, resuming all his immunosuppressive medications orally. The patient was seen one week after surgery tolerating a diet without any pulmonary complications or signs of infection. At 6 months follow up, his weight was 99 kg, BMI of 30.5 kg/m2 and percent total body weight loss of 26%. He was off all of his antidiabetic medications and HbA1c improved to 5.3 mg/dl. PFT improved with FVC increase by 600 mL and FEV1 increase by 460 mL showing 14% and 17% increase in lung volumes respectively.

Conclusion:

We demonstrated that RYGB may be a safe operation following BSLT in centers with appropriate expertise. RYGB can result in improvement in respiratory function and comorbidities. Additionally, RYGB may also decrease reflux and protect the transplant graft from aspiration injury.



P-139

SADI-S / SASI BYPASS FOR WEIGHT REGAIN.

Management of weight regain after surgery

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Objectives:

To delineate the efficiency of SADI-S and SASI Bypass in the management of weight regain following bariatric surgery.

Methods:

The literature was reviewed for the addressed purpose and the data was analyzed to evaluate the outcome of both procedures in reversing weight regain following bariatric surgery.

Results:

SADI-S is safe and effective as a revision surgery for patients who experienced weight regain after LAGB. However, multicenter randomized controlled studies with larger sample sizes are needed to explore its long-term efficacy and safety.

SADI is a safe operation that offers a satisfactory weight loss for patients subjected to a previous sleeve gastrectomy. The side effects are well tolerated, and complications are minimal

Conversions of RYGB to SADI-S can provide significant additional weight loss. However, complications and malnutrition can develop after the conversion, and further research is needed for evaluating safety.

SASI Bypass is still not well investigated for weight regain following bariatric surgery. Initial reports, however, indicate that it is superior to OAGB and RYGB for weight regain following LSG.

Conclusion:

SADI-S is a safe and effective procedure for weight regain following bariatric surgery, its side effects seem to be tolerable and complications tend to be minimal and controllable. Nutritional\metabolic derangements, however, need to be closely monitored. The outcome seem to be best following LSG. More CRTs are required to assess its long term nutritional\metabolic effects.

SASI Bypass is still not well investigated for weight regain following bariatric surgery but initial reports indicate that it might be superior to OAGB and RYGB for weight regain following LSG. More CRTs are required to assess its long term outcomes.

P-140

SINGLE ANASTOMOSIS SLEEVE ILEAL BYPASS AFTER SLEEVE GASTRECTOMY: ARE PATIENTS AT HIGHER RISK OF NUTRITIONAL DEFICIENCIES

Pre and Post Nutritional Deficiencies

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Background/Introduction:

Nutritional deficiencies post bariatric surgery are widely reported, with the Laparoscopic Sleeve Gastrectomy (LSG) generally carrying a lower risk for nutritional deficiencies, compared with bypass procedures. Recently we have seen an increase in the single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) performed as a revisional procedure following weight regain post LSG.

Objectives:

The study aimed to investigate the nutritional status and prevalence of nutritional deficiencies amongst bariatric surgical patients within the first year post SADI-S, who had previously undergone LSG. Further, to assess the effectiveness of current replacement protocols.

Methods:

A retrospective study looking at patients who underwent the SADI-S between 2019-2021. Patients were recommended a bariatric nutritional supplementation regimen. Nutritional markers were obtained preoperatively and at 3 monthly intervals for 1 year. Comparative analyses of nutritional markers were performed at established intervals.

Results:

Fifteen patients were included in the study. There were nil striking differences in nutritional status in the pre and postoperative stages. The nutritional deficiencies identified were vitamin D, ferritin and vitamin B12.

Conclusion:

The SADI-S is an effective revisional procedure following weight regain post LSG. The nutritional outcomes between LSG and SADI-S were similar. Establishing a strict supplementation protocol and monitoring compliance can optimise nutritional status. With such protocol, also can reveal a reduction in nutritional deficiencies.

P-141

SAFETY IN OBESITY SURGERY: 15 YEARS OF BARIATRIC MEDICAL TOURISM, OUTCOMES FROM A LONGITUDINAL DATABASE.

Surgical tourism

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Background:

Mexico is an important medical tourism destination where thousands of weight loss surgeries are performed every year. There is no official data of these bariatric procedures. The safety and outcome are unknown.

Objectives:

The objective is to evaluate the safety and efficacy of the bariatric procedures performed in a certified institution in the Mexico-USA border in the last 15 years. Primary objective is to determine the morbidity and mortality and the secondary objective is to determine weight loss results and follow-up compliance.

Methods:

15 years longitudinal database analysis (January 2005 to December 2019) including sleeve gastrectomy, Roux-en-Y gastric bypass, one anastomosis gastric bypass, adjustable gastric band, revisional surgeries and intragastric balloon performed at the Advanced Medicine Institute by one board certified bariatric surgeon. Only foreign (medical tourism) patients were included in our database.

Results:

A total of 4972 consecutive patients were included -medical tourism patients- and 5159 bariatric procedures (1565 males, 3407 females). Mean age and body mass index were 38 years (range, 18-72) and 40.3 kg/m2 (range, 33.3-88 kg/m2). Type of Procedures: Laparoscopic Sleeve Gastrectomy (LSG) 3465, Laparoscopic Roux-en-Y Gastric Bypass (LRNY-GBP) 338, Laparoscopic One Anastomosis Gastric Bypass (OAGB) 485, Laparoscopic Adjustable Gastric Band (LAGB) 399, Intragastric Balloon 285, Revisional surgeries 187. The 30-day complication rate was 3.2% after Revisional Surgery, 0.2% LSG, 0.59% LRNY-GBP, 0.61% OAGB, 0.35% Intragastric Balloon. The highest weight loss at one year was observed after LRNY-GBP (50.3% EWL). The follow-up compliance rate at 3 years is lower if the patient lives more than 50 miles from the medical office. There were no 30-day mortalities.

Conclusion:

Medical tourism for bariatric surgery is safe and effective when performed in a certified hospital and by a board-certified surgeon and multidisciplinary team.

P-142

SAFETY OF CONCOMITANT CHOLECYSTECTOMY AND BARIATRIC SURGERY: A BRITISH HIGH-VOLUME CENTRE EXPERIENCE

Endoscopic and percutaneous interventional procedures

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Background:

Despite the accepted safety of bariatric and cholecystectomy surgery as stand-alone procedures, there still remains hesitancy in performing both at the same time. Concomitant surgery for gallstones can solve biliary disease during treatment for obesity.

Objective:

To investigate the safety of concomitant cholecystectomy and bariatric surgery (CCBS) in a single high-volume centre

Method:

Demographics, length of stay and complications were examined for patients who underwent concomitant cholecystectomy with bariatric surgery between January 2014 and December 2019.

Results:

Forty-five bariatric patients underwent CCBS. The average BMI was 47.5 (SD=7.9). The procedures performed included 28 bypass operations, 11 sleeve gastrectomies and 6 duodenal switch procedures. Indications for concomitant cholecystectomy included biliary colic (n=23) and cholecystitis (n=10), pancreatitis (n=1), cholangitis (n=1), and obstructive jaundice (n=1). Nine cholecystectomies were performed on asymptomatic patients (n=5) or as part of a duodenal switch (n=4).

Median LOS was 1 day (IQR 1-2 days). Three post-operative bariatric complications (7%) were reported: port-site hernia, post-operative infection, and staple line bleeding. One (2%) biliary complication was reported: post-operative pancreatitis. Two readmissions were recorded, for post-operative pain (4%). No mortality or return to theatre was recorded.

Conclusion:

Concomitant cholecystectomy is a safe and feasible option for biliary disease for patients undergoing bariatric surgery. Length of stay was similar to simple bariatric surgery. Concomitant cholecystectomy is a useful option to reduce risk and cost for patients.

P-143

SANTORO-TRANSIT BIPARTITION AFTER SLEEVE GASTRECTOMY: PRELIMINARY RESULTS AND COMPARISON TO SLEEVE ILEAL BIPARTITION WITH BRAUN'S JEJUNOJEJUNOSTOMY

Revisional surgery

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Introduction:

Sleeve gastrectomy (SG) has developed to be the most popular stand-alone technique in the treatment of morbid obesity. Failure of weight loss or de novo reflux are two common reasons for revisional operation, usually a bypass procedure. Transit bipartition is considered to provide effective weight loss minimizing though the risk of extreme malabsorption. Additionally, creating a second stomach outlet can be beneficial for GERD symptoms. Thus, Sleeve Ileal Bipartition with Braun´s jejujejunostomy (SASI with BJJ) and Santoro Bipartition are the procedures of choice performed in our clinic in cases of weight regain/inadequate weight loss and GERD symptoms after SG. Purpose of this study is to present our preliminary results of Santoro Bipartition as revisional operation after SG and compare our findings with those of SASI Bipartition with BJJ.

Methods:

We retrospectively analyzed patients undergoing Santoro Bipartition after SG in our center, from July 2020 until April 2022. 44 patients, suffering from weight regain/inadequate weight loss and reflux symptoms, met the criteria. 58 patients of the same demographics, undergoing SASI Bipartition with BJJ were at the end compared to the Santoro group.

Results:

The results are summarized in table 1. 44 patients consisting of 8 men and 36 women with a mean age of 45+/-9.5 years were considered. In 2 cases, a laparotomy due to massive adhesions was necessary. 10 patients underwent an additional hiatoplasty and in further 10 cases, an extended laparoscopic adhesiolysis needed to be performed. 2 patients developed Pneumothorax, of which one was treated conservatively and the second with a drain. In the 30 day follow up period, 13 patients were readmitted. In 5 cases a revisional operation was performed due to persistent obstruction symptoms, caused by internal hernia (n=3) or adhesions (n=2). Further readmission causes were epigastric pain or fever (n=8). Upper endoscopy was performed in all of them revealing a gastritis and duodenitis in 5 cases. 2 patients developed pneumonia and were treated with oral antibiotics.

In the 30 days follow-up, all patients showed a satisfied weight loss (mean BMI 34.97+/-4.6 kg/m2) and 37 presented with less reflux symptoms.

Conclusion:

Santoro Transit Bipartition after SG so far gives promising results, regarding weight loss and remission of reflux. Further Follow up needs to be done in order to determine long-term conclusions.

Table 1: 30-day Follow- Up: Santoro vs SASI Bipartition after SG

	SASI	Santoro
OP Duration	123+/-36	114+/-23
Initial BMI	49.88+/-8.52	48.3+/-5.3
Lowest BMI	32.7+/-6.05	32.66+/-5.25
BMI perioperative	37.61+/-7.08	37.42+/-5
BMI s/p 1 Month	35.83+/-6.2	34.97+/-4.6
Hospital stay	3-4 days	2-4 days

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P-144

SHORT-TERM EFFICACY AND SAFETY DATA OF TORE PROCEDURE (OVERSTITCH-APOLLO®) IN PATIENTS WITH WEIGHT REGAIN AFTER RYGB

Endoscopic and percutaneous interventional procedures

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Introduction:

Bariatric surgery remains the most effective long-term therapeutic option for morbid obesity and Roux-en-Y gastric bypass (RYGB) one of the most widely used techniques. Over time, however, many of these patients can regain much of their lost weight.

Objective:

To evaluate the efficacy and safety outcomes of transoral outlet reduction (TORe), by means of an endoscopic suture device (OverStitch-Apollo) in patients with weight regain after RYGB, with a 6 months follow-up.

Methods:

Single center retrospective study of 16 consecutive patients with weight regain after RYGB. All they presented dilated gastro-jejunal anastomosis (>15mm). TORe was performed to reduce the anastomosis aperture and to treat the gastric pouch when it was dilated (>5cm). Anastomosis tissue was always circumferentially ablated with APC. We describe intraoperative technical data, safety and weight loss outcomes with a follow-up of 6 months.

Results:

After RYGB, patients had a mean maximum weight loss of 31.60kg and a later average regain of 20.22kg. Mean anastomosis diameter was 34mm (range 20-45) which was reduced to 9mm (range 5-12) (75% reduction) with an average of 2.6 sutures (2-3). Mean pouch size was 7.3 cm (range 2-10) which decreased to 4.8 cm (range 4-5) (34.25% reduction) with an average of 2.8 sutures (0-4).

Mean weight loss at 12 months after TORe was 11.75kg, representing a weight loss of 58.11% of weight regained after RYGB. The procedure was safe in all cases.

Conclusion:

TORe with OverStitch-Apollo endoscopic suture system is a safe and effective minimally invasive procedure to control weight regain after RYGB, in a short-term follow-up.

FIGURE 1. Weight evolution. Mean results pre/after-RYGB and pre/afterTORe

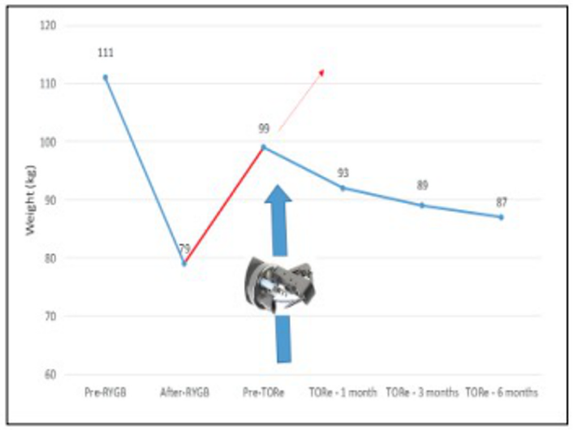
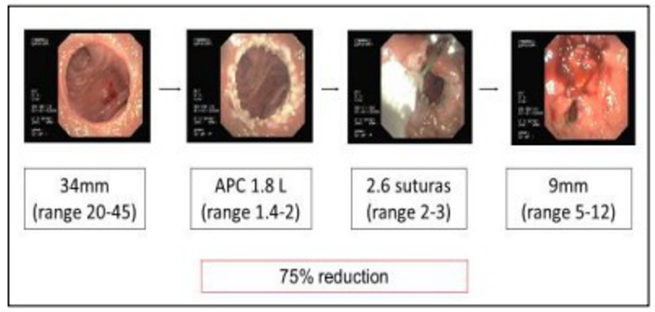
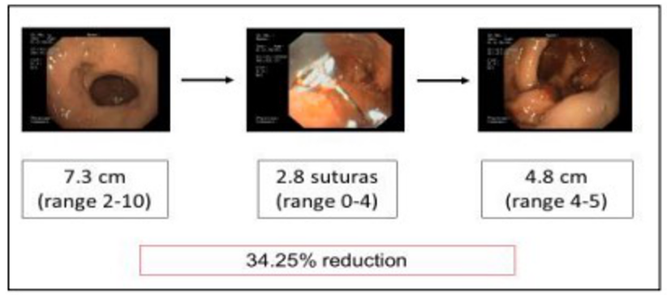


FIGURE 2. Mean Gastrojejunal Anastomosis (A) and Pouch (B) reduction data

(A)



(B)



P-145

SHORT-TERM OUTCOMES LAPAROSCOPIC SLEEVE GASTRECTOMY VERSUS LAPAROSCOPIC ONE ANASTOMOSIS GASTRIC BYPASS IN MANAGEMENT OF SUPER-SUPER OBESE EGYPTIAN PEOPLE.

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Management of super-super obese (SSO) patients is very challenging because of common association of several comorbidities. Objectives: The aim of this study was to compare short term outcomes Laparoscopic sleeve gastrectomy (LSG) versus laparoscopic one anastomosis gastric bypass (LOAGB) in management of SSO Egyptian people.

Methods:

This was a prospective study performed on 40 SSO patients in the Department of General Surgery, Tanta University Hospital, during the period from September 2017 to December 2019. The study populations were randomly divided into two equal groups, group I & II subjected to LSG and LOAGB respectively. Patients were followed up at 1, 3, 6, 12 and 24 months. Operative time, length of hospital stays, Excess weight loss percentage (EWL %), comorbidities improvement or resolution, postoperative morbidity and mortality were evaluated and compared between the 2 group.

Results:

There was no statistical significance difference regarding Age, sex, preoperative BMI, and comorbidities distribution between both groups. The mean operative time for LSG was 56.5 ± 12.82 min and that for LOAGB was 95.25 ± 10.57 min; the 1 year EWL% was 53.1± 3.39% for LSG and 62.3 ± 5.3% for LOAGB. There was no statistical significance difference between both groups regarding comorbidities improvement except for type 2 diabetes mellitus, which showed a significantly higher resolution rate after LOAGB. There were no perioperative mortality and the overall morbidity rates were similar between both groups.

Conclusion:

LOAGB is superior to LSG regarding EWL% at different follow up periods with similar morbidity rates and longer operative time

P-146

SHOULD YOU PUT A RING ON IT? EXPERIENCE WITH MAGNETIC OESOPHAGEAL RING TO TREAT REFLUX AFTER BARIATRIC SURGERY

Revisional surgery

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Introduction:

De novo or persistent reflux after bariatric operation is a common problem which usually requires revisional procedures. Magnetic esophageal ring has been used to treat GERD in non bariatric patients. The implementation of the system after bariatric operations is less well described. Purpose of the study is to assess the effectiveness and safety of magnetic esophageal ring as revisional procedure after bariatric surgery.

Methods and materials:

A retrospective review of patients who underwent an esophageal magnetic ring implantation after bariatric surgery was performed between January 2019 to December 2019. 20 female patients met the criteria and showed for follow up. Mean initial BMI 44,8 kg/m2 and 28,4 kg/m2at the time of the revision. Sleeve gastrectomy (n=13), RNY bypass (n=4), mini gastric bypass (n=1) and SASI bipartition were the initial performed procedures. All patients suffered from GERD symptoms, 75% were also diagnosed with esophagitis.

Results:

The procedure was performed laparoscopically and without major complications in all patients. 80% showed a resolution of the symptoms. 10 patients (50%) needed no further PPI treatment, whereas in 6 (30%) a dosis reduction was performed. In the long term, 25% (n=5) showed severe dysphagia, resulting in explantation of the system (n=3) or endoscopic balloon dilatation (n=2). 8 patients reported mild discomfort in terms of difficulty in swallowing.

Conclusion:

Esophageal magnetic ring can be an option in the treatment of reflux after bariatric surgery. Further research in order to assess the effectivity of the system is needed.

P-147

SLEEVE GASTRECTOMIE SUR PATIENT PORTEUR D'UN SITUS INVERSUS

Cardiovascular risk and bariatric surgery

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Chirurgie Bariatrique, CHP Europe, Les Mureaux, France.

Présentation d'un cas de sleeve gastrectomie sur patient porteur d'un situs inversus.

- PATIENTE DE 27 ANS
- POIDS INITIAL EGAL A 130 KG
- TAILLE 1,67M
- BMI INITIAL EGAL A 47 kg/m2
- LAPAROSCOPIC SLEEVEGASTRECTOMIE IN PATIENT WITH SITUS INVERSUS TOTALIS

P-148

SLEEVE GASTRECTOMY AFTER LIVER TRANSPLANTATION. A SINGLE CENTER EXPERIENCE

Transplants (liver, kidney)

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Background:

The incidence of morbid obesity is increasing also in liver transplant patients, increasing their risk of different diseases, especially their cardiovascular risk (one of the main causes of mortality in this population).

Objectives:

We will describe our own single-center experience performing Sleeve Gastrectomy (SG) in patients with a previous liver transplant (OLT).

Methods:

From May 2013 to September 2019 we performed a SG in 4 patients with a previous OLT in our Institution. One patient was transplanted due to hepatocellular carcinoma on alcoholic cirrhosis + HBV. The other three patients had HCV cirrhosis (in one case associated with alcohol abuse and in another HIV infection).

Results:

The procedure was performed by open approach in the first case due to the existence of a concomitant incisional hernia, and with a laparoscopic approach in the other three patients. In laparoscopic surgery three trocars were used. A liver retractor was not needed due to adhesions. We didn´t move to open approach in any case. Three of them were men, mean age of 60.8 years (56-67 ys). The OLT was performed an average of 105 months before bariatric surgery. His mean BMI was 42.4 kg/m2 (39.4-43.6) despite attempted medical treatment.

The mean stay was 4.75 days (3-9). None required transfusion of blood products or underwent reoperation. Two patients had a mild wound infection. No other morbidity or mortality. The mean follow-up is 47,3 months (21-97 months). It was not necessary to modify the immunosuppressive therapy in any patient. At the end of the follow-up, the mean BMI is 27,8 kg/m2 (26,8-29 kg/m2), mean weight loss 40,3 kg (30-53 kg), mean %EWL was 84% (78,2-90,3%), mean %TWL 34,3% (30,9-38,4%). The first patient operated with an open approach was transplanted in 2006 for hepatocarcinoma and alcoholic cirrhosis + HBV. Five years after bariatric surgery, the patient was diagnosed with chronic autoimmune liver disease and portal vein thrombosis with portal hypertension. In 2019 he suffered a hemorrhagic stroke. Currently, at 70 years of age, he is not considered a candidate for a retransplant.

Conclusion:

SG is safe and effective in patients with a previous OLT, with comparable results to those described in the non-transplanted population, with a favorable outcome in terms of weight loss and improvement of comorbidities,without needing to modify baseline immunosuppression.

P-148

SLEEVE GASTRECTOMY AFTER LIVER TRANSPLANTATION – RESULTS OF A FIVE-YEAR FOLLOW-UP

Pre and post transplantation and bariatric surgery

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Division of General Surgery, Tel-Aviv Sourasky Medical Center, Tel Aviv, Israel.

Introduction:

Severe obesity and metabolic syndrome are common long-term complications after liver transplantation (LT). Bariatric metabolic surgery continues to be the essential treatment for severe obesity with laparoscopic sleeve gastrectomy (SG) being the most common procedure performed worldwide.

Objectives:

To analyze the early and later postoperative outcomes of patients undergoing SG after LT.

Methods:

A retrospective analysis of all LT consecutive patients who underwent bariatric metabolic surgery between January 2006 and December 2020 in a single tertiary surgery center. Data retrieved included perioperative characteristics and postoperative outcomes.

Results:

During the study period a total of 226 LTs were performed in our center. Four patients (1.8%) underwent SG following LT. The indication for LT was Non-alcoholic fatty liver disease (NAFLD) in two patients, NAFLD with hepatocellular carcinoma in one patient and Hepatitis C cirrhosis in one patient. The median time from LT to SG was 23.5 months (IQR 20,36). The median BMI prior to LT and SG was 38.8 (IQR 37.9,42.1) and 41.8 (IQR 40.2,43.5), respectively. All patients suffered from obesity associated medical problems, and all suffered from Type II diabetes (T2D) with a median A1c level of 5.8% (IQR 5.3,6.5). All patients were consuming immunosuppressants in the perioperative period. All surgeries were approached laparoscopically, the median operative time was 65.5 minutes (IQR 56.7,94.5), there were no intra-operative complications, and no conversions to open surgery. There were no early (30-day) major complications.The median LOS was 3.5 days (IQR 2.7,5.5) with no readmissions.

The median range of follow-up was 61.5 months (IQR 52,62.4), there were no delayed (>30 day) complications. The median BMI at 24, and 60 months was 29.61 (IQR 28.4,31.2) and 31.10 (29.4,31.9), respectively. The median percentage of total weight loss at 24, and 60 months was, 29.18 (IQR 26.3,31.4), and 28.87 (IQR 24.2,29.8,respectively. The median percentage of excess weight loss at 24 and 60 months was 60.49 (IQR 52.8,66.2) and 58.57 (IQR 49.1,59.7), respectively. One patient did not have T2D resolution.

Conclusions:

SG is an attractive procedure following LT associated with low perioperative morbidity and satisfactory long-term results.

P-150

SLEEVE GASTRECTOMY TO ENABLE SIMULTANEOUS KIDNEY AND PANCREATIC TRANSPLANTATION IN A MORBIDLY OBESE PATIENT UNDER PERITONEAL DIALYSIS

Transplants (liver, kidney)

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12 de Octubre University Hospital, Getafe, Spain.

Background:

Pancreas transplantation is a good treatment in patients with type 1 diabetes mellitus (DM) with chronic kidney failure on dialysis. However, obesity is associated with increased overall complications and inferior outcomes. Because of this, in many transplant centers, pancreatic transplantation is only considered in patients with a BMI below 30 kg/m2.

There is little experience of bariatric surgery before pancreas transplantation and also of bariatric surgery in patients on peritoneal dialysis (PD).

Objectives:

To describe our experience with the performance of a Laparoscopic Sleeve Gastrectomy (LSG) in an obese patient on peritoneal dialysis (PD) and who is evaluated as a candidate for simultaneous pancreatic and renal transplantation (SPK).

Methods:

38-year-old male patient. Type 1 DM diagnosed when he was 5 years old, with poor control (glycosylated hemoglobin 10% and multiple diabetic decompensations), and chronic kidney failure on peritoneal dialysis since 2016.

He was referred to the Pancreatic Transplantation Unit with a BMI of 38.8 (height 1.66 m; weight 107 kg), therefore pancreatic transplantation was contraindicated.

With medical treatment, the patient was able to drop to a BMI of 36.3 kg / m2 (weight 100 kg).

At that time the patient was proposed for bariatric surgery.

Results:

In July 2019, an LSG was performed, temporarily changing the modality from dialysis to hemodialysis. The patient presented self-limited hemoperitoneum on postoperative day 2 after a dialysis session under anticoagulant treatment. It was decided to perform an exploratory laparoscopy to evacuate the blood remains.

The patient was discharged 7 days after LSG without other complications.

One month later, the patient resumed peritoneal dialysis.

At 6 months the patient weighed 69 kg, BMI 25 kg/m2, WL 31 kg,%EWL 100%; %TWL 31%. At that time, he was placed on the SPK transplant waiting list.

At 12 months the patient weighed 71 kg, BMI 25.8 kg/m2; WL 29 kg; %EWL 93.5%; %TWL 29%.

Currently the patient has been 2 years after LSG and has a weight of 71.5 kg; BMI 25.9 kg/m2; %EWL 91.9%; %TWL 28.5%.

In immunosuppressive t and normoglycemia.

Conclusion:

Bariatric surgery can make pancreatic transplantation possible in obese patients and, if they are being treated with peritoneal dialysis, it allows the same dialysis modality to be maintained until transplantation.

P-151

SPONTANEOUS SPLENIC RUPTURE TWO-WEEKS AFTER SLEEVE GASTRECTOMY

Endoscopic and percutaneous interventional procedures

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[1]Rashid Hospital- Dubai Health Authority, Rashid Hospital- general Surgery Dep. Dubai, United Arab Emirates; [2]Rashid Hospital- Dubai Health Authority, Dubai, United Arab Emirates.

Sleeve gastrectomy is one of the commonest bariatric procedures performed globally, with an acceptable rate of reported complications. Splenic injury during this procedure is a rare, but can be a serious complication. A 32-year-old male patient who had a spontaneous splenic rupture two weeks after an uneventful sleeve gastrectomy that needed an emergency splenectomy. Spontaneous rupture after sleeve gastrectomy is an extremely rare condition with one single previous report. Diagnosis needs a high clinical suspicion and treatment is usually by splenectomy if not responding to resuscitative measures. Such cases need adequate further workup to exclude other causes of rupture. Considering the high number of sleeve gastrectomy procedures done worldwide, this report highlights the importance of high suspicion and awareness of physicians who face patients with post bariatric complications. Early diagnosis and intervention are usually important factors in better outcome.

P-152

STAPLE LINE GASTRIC LEAK SIX YEARS AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY

Young IFSO session

K. Grover[1], N. Korenblit[2], R. Sadek[3], K. King[4].

[1]Robert Wood Johnson Medical School, Bridgewater, United States; [2]Rutgers RWJMS, Passaic, United States; [3]Advanced Surgical and Bariatrics, Director of Metabolic & Bariatric Surgery, RWJBH, Somerset, United States; [4]Advanced Surgical and Bariatrics, Robert Wood Johnson Barnabus Health, Somerset, United States.

Background:

Laparoscopic sleeve gastrectomy (LSG) has been widely accepted as an effective surgical treatment for patients with morbid obesity and metabolic syndrome. The restrictive narrowing through stapled excision of the gastric fundus and the greater curvature of the stomach combined with the altered ghrelin metabolic pathway are thought to be the primary mechanisms driving weight loss. Staple line gastric leaks (GL), one of the most serious complications of LSG, have an incidence rate reported between 1.09% to 3.3%. A “late” presenting GL has been defined as 10 or more days after the index operation. There is a paucity of literature describing patients presenting with a GL outside of one year postoperatively.

Objective / Methods:

This case report details the clinical presentation of a 45-year-old woman who developed a staple line leak six years after a sleeve gastrectomy and evaluates similar case reports. A systematic review of the Pubmed database was performed using the keywords “sleeve gastrectomy, gastric leak, staple line leak, late, delayed.” Eligible case reports included articles reporting on patients who underwent LSG and subsequently presented with a gastric leak at least 1 year after their operation.

Results:

The patient initially presented as a 39-year-old female smoker, BMI 43, with a history of hypertension for a LSG. She was discharged after an uncomplicated postoperative course. Six years post-LSG, the patient presented with left upper quadrant abdominal pain, nausea, leukocytosis (WBC 11.5 × 109/L), anemia (Hb 11 g/dL, Hct 33.9%), and elevated CRP (17.71 mg/L). A CT scan with oral contrast confirmed a gastric leak at the proximal portion of the staple line. She was treated with bowel rest, TPN, and antibiotics. Two published case reports described delayed gastric leaks outside of one year. Both patients had a BMI >40 and had achieved a BMI of <30 after obesity surgery. One patient presented 16 months after a band to sleeve, while the other presented 18 months after a primary sleeve gastrectomy.

Conclusion:

Delayed gastric leak (greater than 1 year) from sleeve gastrectomy is a rarely reported complication. This case report, in which we describe a patient who presented 6 years after a LSG with a GL underscores the necessity of long term follow up in patients undergoing obesity surgery. Nonoperative management is a reasonable approach in managing nontoxic patients with delayed GL following LSG.

P-153

STATE FINANCING SYSTEM FOR BARIATRIC-METABOLIC SURGERY IN CHILE

Behavioral health and bariatric surgery - pre and post-op challenges

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[1]Bariatric Surgery Center, Clinica Colonial, Santiago, Chile; [2]Planification Department, FONASA, Santiago, Chile; [3]Past President, IFSO Chile, Santiago, Chile; [4]Director, IFSO Chile, Santiago, Chile; [5]President, IFSO Chile, Santiago, Chile; [6]Department Of Nutrition And Bariatric Surgery, Clinica Las Condes, Santiago, Chile; [7] President, NGO "300 Mil Morbidos", Santiago, Chile; [8]Chamber of Deputy, Chilean Congress, Santiago, Chile.

Introduction:

Bariatric surgery has shown benefits and positive impacts on people's health; these benefits can be evaluated at the health level and in the economic impact that bariatric surgery has. It is difficult to understand why insurers, private and state, give little coverage or few facilities for these procedures, considering these benefits.

Objective:

Implement a public financing to cover bariatric surgery in Chile.

Methods:

Medical evidence material was prepared on the health benefits & economic impact of these procedures. It was presented to the authorities of FONASA (National Health Fund), the Ministry of Health, in the Ministry of Social Development and Family, in the Health Commission of the Chamber of Deputies and in the Ministry of Finance. A political and a patient´s NGO ""300 Thousand Morbid" sponsorship was achieved. Meetings were requested where we presented the results of bariatric surgery, the impact on health and health expenditure.

Results:

10 meetings were held and a presentation in the Health Commission of the Chamber of Deputies. The Sponsoring Deputy proposed a draft resolution which the Chamber of Deputies voted unanimously to recognize Obesity as a chronic disease and commits the mechanisms and financing for its prevention and treatment. Within the financing mechanisms of state medical procedures in Chile, there are different modalities, in the case of bariatric surgery, financing is achieved through the PAD mechanism (Payment Associated with Diagnosis), for Sleeve Gastrectomy and Gastric Bypass, this means that the benefits are valued and packaged, and that the interested health centers register to accept this type of financing who are paid a single value (Table 1), which includes the payment of hospitalization, surgery, supplies and medical fees. Patient agrees if he meets the inclusion criteria and pays 50% of the benefit. The center that accepts this payment method, takes care of complications patients may have within 15 days of discharge. Requirements are those known from the NIH, which were described and operationalized in major and minor criteria, to have a more objective evaluation of these, particularly in cases of comorbidities that patients with BMI under 40 have (Table 2).

Funding was approved in Resolution 277 Exempt dated 2/ 26/22. Starting on 3/1/22 36 private centers have been registered and more than 400 patients have been treated with this financing.

Conclusion:

Financing bariatric surgery is resisted by private and public insurers even though there is sufficient evidence of the benefits and savings in health spending. The support of patient groups and committed political authorities and the sensitization of the authorities are essential to achieve the objectives. The main obstacle to achieving funding is the "stigma".

Table 1- Values

Surgery Code	Procedure	PAD Value	Patient Copayment
2501058	Gastric Bypass	US$ 7036	US$ 3518
2501059	Sleeve Gastrectomy	US$ 6407	US$ 3203

Table 2 Indications and Surgical Criteria

- Bariatric Surgery benefits to be granted to beneficiaries between 18 and 65 years of age who meet the following criteria regarding of the Body Mass Index (BMI):

* BMI ≥ 40 with or without associated morbidity.
* BMI 35 - 40 with associated morbidity (1 major + 1 minor or 3 minor criteria).
* BMI 30 - 35 in the case of being a carrier of DM2 that is difficult to manage (or 2 major criteria + 1 minor).

Criteria	
Major	**Minor**
T2 DM	Prediabeteic Disorder
Hypertension	Dislypidemia
OSAHS	Fatty Liver
Severe musculoskeletal disorder that requieres surgery, hip or knee replacement	Hyperuricemia
Metabolic Syndrome	Hypotiroidism
Renal inssufuciency	Gastrocsophagic reflux

Those who access these benefits must comply with the appropriate operating protocol, not to present contraindications for surgery.

P-154

STENOSIS, DILATATION, PERFORATION AND SURPRISE AFTER GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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The Gastric Bypass is a very frequent Bariatric procedure, although it is not a free risk intervention, it has a low complication rates due to surgical technique standardization.

The gastrojejunum anastomosis stenosis occurs 3 to 4 weeks after gastric bypass surgery, the symptoms can include nausea, vomiting and trouble swallowing. It is diagnosed by an upper endoscopy, and it is treated by endoscopic dilatation and proton pump inhibitors with excellent results in the majority of cases.

In a few cases, a perforation may occur after the endoscopic dilatation, and cause peritonitis, so a diagnostic laparoscopy is performed to control the contamination and drain a leak.

This is a case of a female patient who at the third week after a gastric bypass developed a gastrojejunum anastomosis stenosis that was treated with endoscopic dilatation, after that she presented with pneumoperitoneum, a diagnostic laparoscopy was performed without any contamination findings, but instead, we found that the gastric pouch is still attached to the gastric remanent. In this video is presented the surgical findings of the intervention and how was reconstructed the gastric pouch and gastrojejunum anastomosis

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P-155

STUDY THE EFFECTS OF BARIATRIC SURGERY ON NONALCOHOLIC FATTY LIVER DISEASE (NAFLD) USING MR ELASTOGRAPHY

NASH and bariatric surgery

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Introduction:

NAFLD is defined by the presence of steatosis in >5% of hepatocytes.It is regarded as the hepatic manifestation of the metabolic syndrome.

Diagnosed by AASLD guidelines

- Fatty change of the liver is observed by imaging or histologically.
- No marked alcohol drinking habit is present (ethanol intake of < 210 g/week for men and < 140 g/week for women)
- No presence of other factors inducing fatty change of the liver
- No concomitant factors causing chronic liver disease are present.

10–24% of general population and 57–74% of obese individuals have NAFLD. The corresponding rates for NASH are 3–4% and 15–20% respectively, The lifetime risk of progression to cirrhosis in patients with simple steatosis is between 0% and 4%. But patients with NASH have 10-25% risk of developing cirrhosis. It is becoming the most common indication of liver transplant in western world.

Bariatric surgery has been shown to be superior to conservative measures in treatment of NAFLD. However some studies have reported a few cases of worsening or new onset inflammation or fibrosis.

Methods

- Place of study- Tertiary Care Teaching Hospital, Hyderabad
- Study Population- All morbidly obese patient undergoing bariatric surgery at our hospital, who are willing for pre-operative and follow up MR Elastography of liver.
- Study design – A prospective, observational study
- Period of study- from July 2016 to May 2018 for a period of 2 years
- Final evaluation was done with 35 patients in the age group between 23 to 60.
- Out of these 35 patients, 15 underwent laparoscopic sleeve gastrectomy and 20 underwent bypass procedure (mini gastric bypass and Roux en Y gastric bypass).
- Preop and postop (6-8 mon) estimation of liver stiffness was done with MRE. We have correlated these changes with amount of excess weight loss and resolution of comorbidities and improvement of dyslipidemia, ALT and AST. Conclusion

We suggest routine use of preoperative evaluation with MRE in patients with high BMI & multiple comorbidities à presence of advanced liver disease should be excluded prior to bariatric procedure

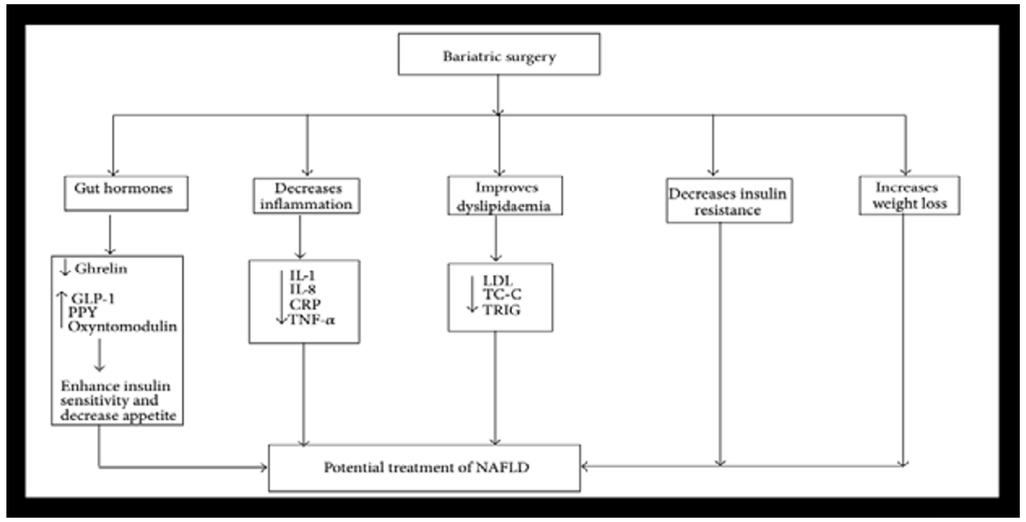
Conclusion:

Both sleeve and bypass procedures are effective.

Resolution of comorbidities (diabetes mellitus and hypertension) and improvement of dyslipidemia can be considered as markers for improvement in NAFLD.

Those having preoperative high grade fatty liver, increased liver stiffness, non-resolution of metabolic syndrome and rapid loss of excess weight

Pathophysiological Changes with Bariatric Surgery That Have the Potential to Treat NAFL



Outcomes of co morbidities after bariatric surgery

COMORBIDITY	TOTAL NUMBER	COMPLETE RESOLUTION (%)	PARTIAL RESOLUTION (%)	NO CHANGE (%)
DIABETES MELLITUS	16	12(75)	4(25)	0(0)
HYPERTENSION	18	11(61.1)	6(33.3)	1(5.6)
HYPERCHOLESTEROLEMIA	16	15(93.75)		1(6.25)
HYPERTRIGLYCERIDEMIA	16	13(81.25)		3(18.75)
ORTHOTOPIC SLEEP APNOEA	2	0(0)	2(100)	0(0)

Mean changes in hepatic steatosis and stiffness between sleeve and bypass groups

	PRE OP	N	Mean
HFF	LSG	15	15.01±7.61
	MGB+RYGB	20	15.83±9.7
STIFFNESS	LSG	15	2.49±0.19
	MGB+RYGB	20	2.90±0.44

POST OP		N	Mean	P VALUE
HFF	LSG	15	4.88±1.91	0.791
	MGB+RYGB	20	4.69±2.20	
STIFFNESS	LSG	15	2.41±0.19	
	MGB+RYGB	20	2.79±0.52	0.271

P-156

THE ARC-LINE MARKING AT THE GASTRIC ANGLE TO AVOID STENOSIS IN LAPAROSCOPIC SLEEVE GASTRECTOMY

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy (LSG) is now the most popular procedure in bariatric surgery. Stricture after LSG is one of the major complications, which are related to the occurrence of leakage, dysphagia and vomiting. Expert panel consensus statement represented that it is mandatory to push down and to maintain the bougie beyond the gastric angulus in order to avoid an excessive narrowing at that spot and the linear stapler can be applied without angulations. However, even when doing that, stenosis at the angulus after stapling sometimes can be occurred.

Objective:

To introduce our method to avoid the narrowing at the gastric angle.

Methods:

We think that the most important point is the recognition of the anatomy of gastric angle. In the lesser curvature, gastric angle is not a single point, but a circular arc in 2-4 cm lengths. Considering that, we draw the arc-line 2.5cm below and parallel to the angle curve before stapling. The first and second transection of stomach should be performed on this line. After 2nd transection, the linear stapler can be applied along the bougie as usual. For so small a matter, young surgeons in our institution can do LSG safely with a beautiful shape of remnant stomach and no stenosis. As the outcome, operative time, blood loss, complications, the length of postoperative hospital stay (LPHS), the occurrence of gastroesophageal reflux (GERD), and %total body weight loss (%TWL) were analyzed.

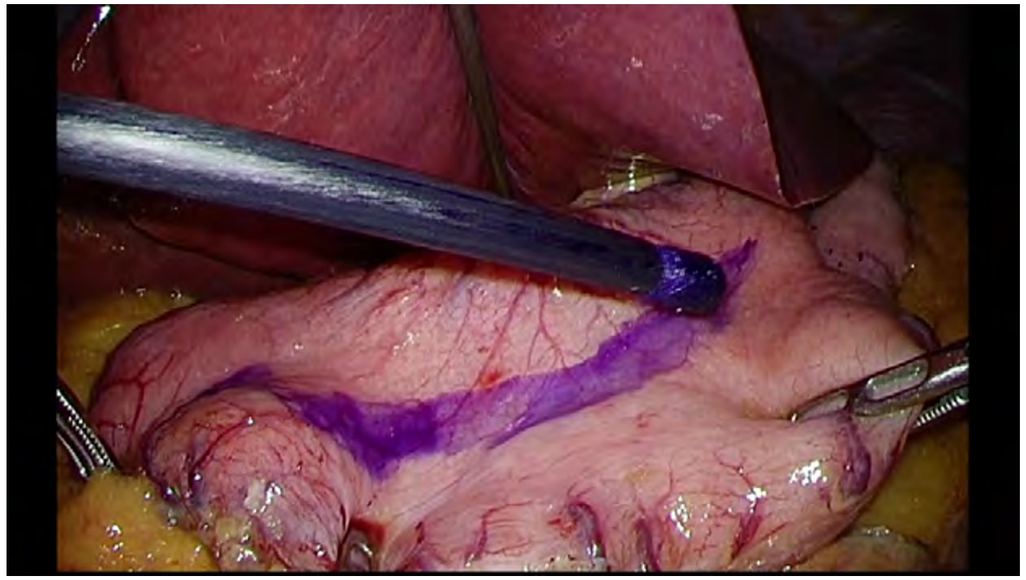
Results:

8 LSG have been performed with this method. Median age and BMI at the initial visit were 46.5 (36-65) and 38.6 (34.8-42.2). Operative time and blood loss were 223.5 (184-244) min. and 0 (0-10) ml, respectively. No postoperative complication and GERD was observed and LPHS was 4 (3-9) days. %TWL at 3month after LSG was 21.5 (21.2-30.1). Postoperative gastric fluoroscopy showed the good clearance from the stomach to duodenum without stricture. These results were better than the past series of 67 LSG in the view of LPHS and GERD.

Conclusions:

The arc-line marking at the gastric angle is a simple method and useful to perform LSG with no stricture at that point.

Group	*This study (N=8)*	*Past Series (N=67)*
Gender, male/female	4 / 4	29 / 38
Age, years	46.5 (36-65)	44 (23-65)
Preoperative body mass index, kg/m^2	38.6 (34.8-42.2)	42.3 (33.0-74.6)
Operation time, min	223.5 (184-244)	185 (122-353)
Blood loss, g	0 (0-10)	20 (0-540)
All complications> Grade II, n	0	2
Bleeding, n	0	1
Leakage, n	0	1
Stenosis, n	0	3
Gastroesophageal reflux, n	0	3
Length of postoperative stay, days	4 (3-9)	10 (4-125)
%Total weight loss at 3months, %	21.5 (21.2-30.1)	22.8 (9.8-35.4)



P-157

THE BEST OF BOTH WORLDS? SHORT TERM RESULTS OF 58 PATIENTS UNDERGOING SINGLE ANASTOMOSIS SLEEVE ILEAL TRANSIT BIPARTITION MODIFIED WITH BRAUN`S JEJUNOJEJUNOSTOMY WITH OR WITHOUT HIATUS HERNIA REPAIR TO TREAT INSUFFICIENT WEIGHT LOSS/ WEIGHT REGAIN AND REFLUX DISEASE AFTER SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Introduction:

Single Anastomosis Sleeve Ileal Transit Bipartition (SASI-TB) after Sleeve Gastrectomy (SG) has been proven to be highly efficacious in cases of weight regain or inadequate weight loss. However, the treatment of reflux after SG with loop gastroenterostomy is a matter of debate.

Objectives:

To address the problem, we modified the procedure adding a Braun`s jejunojejunostomy (BJJ) and if necessary a simultaneous hiatus hernia repair.

Methods:

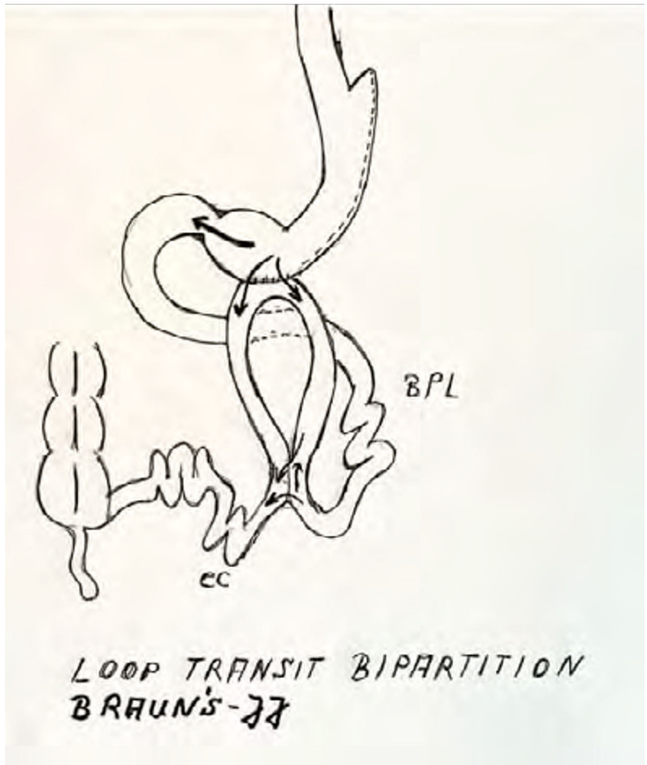
Fifty-eight patients who underwent a SASI-TB were analysed retrospectively. Follow up examinations (FE) took place at 1, 3, 6 and 12 months. Variables included body mass index (BMI), percent excess weight loss (%EWL), total body weight loss (%TBWL), reflux score index (RSI), intakes of protons pump inhibitors (PPI), complications. Regarding RSI, we enrolled the patients in 2 groups. In the first one (n=36), the initial SASI-TB with BJJ operation was completed with a hiatus hernia repair. In the second one (n=22), no hiatal repair was necessary. Inclusion Criteria: insufficient weight loss after SG, PPI intake, reflux esophagitis in the upper endoscopy and/or reflux signs in the barium swallow exam.

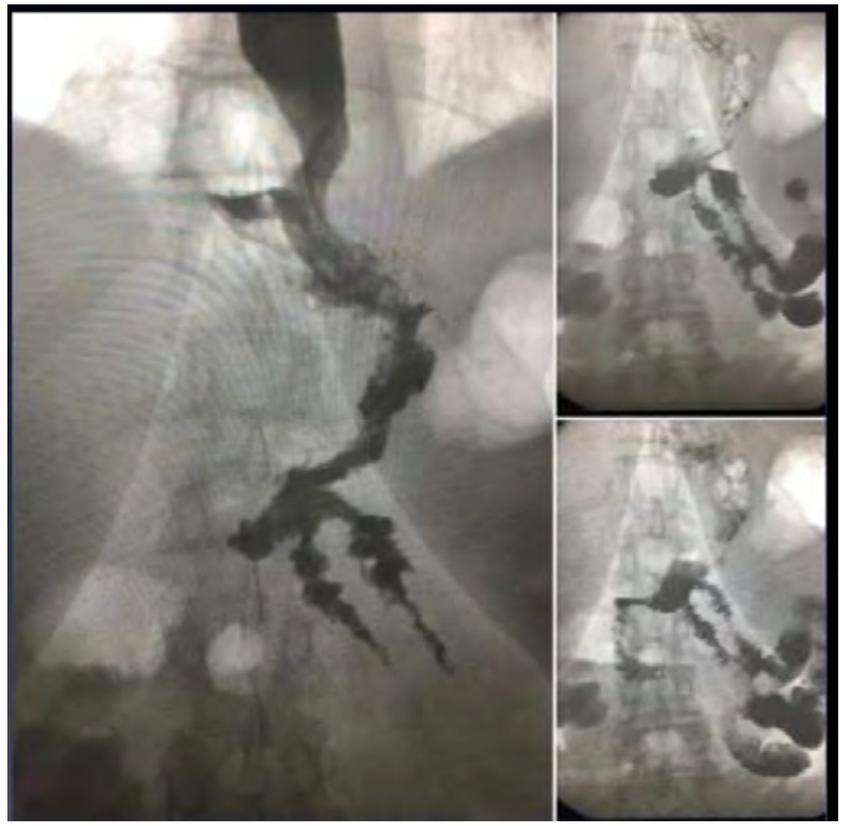
Results:

SASI-TB was performed 55.4±31.1 months after LSG. Mean pre-SASI-TB BMI was 37.6±7.4 kg/m2. At the 12 months` FE, mean BMI was 32.9+6.8 kg/m2, mean %EWL 65.4 + 21.3 and mean %TBWL 34.1 + 11.0 respectively. Operating time was longer in the first group with 153.8±34.6 versus 130.62±24.7 minutes in the second one. Reduction in the dosage of PPIs was observed in 88.9% (first group) vs. 68% (second group) of the patients. Satisfaction`s rate was (n=27) 75% and (n=14) 63,6 % respectively. RSI<13 was reported in 94.8% in patients with hiatus hernia repair and 86.4% in patients without. Thirty days' complication rate was low. In the first group, one patient developed a pneumothorax and in another two laparotomy was needed, resulting in a gastrocutaneous fistula in one of them. In the second group, three patients needed a conversion to laparotomy. In the long term, one patient from the first group presented with a stenosis of the sleeve-ileal anastomosis and a revisional operation was performed. Due to ongoing reflux symptoms, one conversion to roux-en-y Bypass was needed from the second group. Persistent diarrhea was reported at 12 month FE in 6 patients.

Conclusion:

SASI-TB +BJJ±hiatus repair is a viable option to treat reflux in patients undergoing revisional operation due to inadequate weight loss after SG.





P-158

THE COMPARISON OF THE RESULTS OF LAPAROSCOPIC ONE ANASTOMOSIS GASTRIC BYPASS AFTER CREATION DIFFERENT SIZE OF GASTRIC POUCH - "LONG - WIDTH" VERSUS "SHORT - NARROW": A RANDOMIZED CLINICAL TRIAL

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

The number of performing one anastomotic gastric bypass (OAGB) in bariatric surgery has been steadily increasing worldwide. But the question remains: what should be the length and width of the gastric pouch and how it impacts the results and the complications?

Objective:

The aim of this study was to compare the results of OAGB with the creation of different lengths and widths of the gastric pouch.

Methods:

The 500 patients were randomly divided into two groups. The first "long - width" group included 248 patients, where OAGB with a long (L1 = 180 mm) and a wide gastric pouch (W1 = 25 mm) was created. A 36 Fr gastric bougie was used for calibration. The average volume of the gastric pouch in the first group was 40.8 ml3. And in the second "short - narrow" group were 252 patients, where a shortened (L2 = 120 mm) and narrower gastric pouch (W2 = 21.7 mm) was created. The average volume of the gastric pouch in the second group was 23.2 ml3. A 32 Fr gastric bougie was used for calibration.

The inclusion criteria were adult age (18-60 yours), body mass index from 35 to 50 kg / m2. The exclusion criterion was the presence of previous bariatric surgery.

The primary outcome was assessed as a change in body mass index, and the secondary outcome was assessed as the cases of marginal ulcers and biliary reflux requiring conversion to Roux-en-Y gastric bypass.

Results:

The second group showed a more pronounced bariatric result compared to the first group. After surgery, the delta body mass index in the second group was 16.1 ± 5.7 kg / m2 versus 12.4 ± 3.08 kg / m2 in the first group ($p < 0.05$). The second group had fewer complications: 2 (0.79%) cases of marginal ulcers versus 11 (4.43%) cases in the first group ($X2 = 6.5$; $p = 0.01$); 0 (0%) cases of biliary reflux requiring conversion to Roux-en-Y gastric bypass versus 5 (2%) cases in the first group ($X2 = 5.13$; $p = 0.02$).

Conclusion:

Creating a narrower and shorter gastric pouch leads to improved bariatric outcomes. This factor also reduces the likelihood of developing marginal ulcers and reduces the number of bile refluxes, which do not respond to non-surgical treatment.

P-159

THE EFFECTIVENESS OF MINDFULNESS-BASED EATING AWARENESS TRAINING (MB-EAT) INTERVENTION ON WEIGHT LOSS MAINTENANCE POST BARIATRIC SURGERY

Integrated health

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Bariatric surgery is the most effective treatment to morbid obesity, reaching 50% of excessive weight loss. However, inadequate weight loss or weight regain are still observed post bariatric surgery, with regain rate of ~30% of all kinds of procedures. Mindfulness-Based Eating Awareness Training (MB-EAT) is an evidence-based group intervention originally for binge eating patients, in which participants instructed to practice mindfulness to aware hunger and fullness cues, sensory-specific satiety, and the triggers for eating. MB-EAT showed positive effect on improving eating behaviors. However, limited research focused on applying MB-EAT on the post bariatric surgery population.

Objective:

To understand the influence of MB-EAT on lifestyle modification and weight loss maintenance post bariatric surgery.

Method:

We recruited post bariatric surgery adults, and excluded body mass index (BMI) under 35 before operation. Subjects regularly received doctor and dietitian consultation following hospital protocol. Subjects attended a 10-week MB-EAT program weekly and asked to practice at home on a daily basis. Data collection included anthropometric measurements (height, weight, muscle mass, body fat%) and questionnaires (Three-Factor Eating Questionnaire R-18, Binge Eating Scale, Barratt Impulsiveness Scale-11). Data collected at 3 time points: before intervention (M0), immediately after intervention (M3) and at 6 months follow-up (M9).

Results:

Attendance was great (19 of the 21 subjects attended> 8 of the 10 classes). Subjects reported high satisfaction and benefit of MB-EAT. Twenty-one subjects were recruited (52.6% female, mean age=43.23), 19 completed. The intervention showed effectiveness in reducing uncontrolled eating and emotional eating ($p=0.04$ and $P=0.03$) comparing M0 to M3. More than 75% of the subjects reported continuing practicing mindfulness every week, mostly when feeling stressed and bedtime.

Conclusion:

MB-EAT is an acceptable and helpful tool for patients post bariatric surgery to aware the relation between emotion status and eating behaviors. It may be effective in long-term to improve weight maintenance for patients post bariatric surgery.

P-160

THE INFLUENCE OF ROUX-EN-Y GASTRIC BYPASS AND SLEEVE GASTRECTOMY ON THE METABOLIC ANDHORMONAL PARAMETERS AND THE HYPOTHALAMIC SIGNALING IN NON-OBESE RATS WITH TYPE 2 DIABETES.

Basic science and research in bariatric surgery

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Background:

Bariatric surgery is widely used to correct eating behavior and metabolic dysfunctions in type 2 diabetes mellitus (T2DM), but the mechanisms of their restoring effect are not fully understood.

Objectives:

To study the effect of sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB) on the gene expression of the hypothalamic appetite-regulating factors and their signaling systems that are responsible for regulation of energy metabolism in non-obese rats with T2DM.

Methods:

Non-obese T2DM was induced by the 12-week high-fat diet followed by the treatment of male rats with streptozotocin (STZ, 25 mg/kg). The sham surgery, SG and RYGB were carried out three weeks after STZ treatment, and five weeks later the anesthetized animals were sacrificed and the hypothalamic tissue was isolated for gene expression estimation by RT-PCR.

Results:

In non-obese diabetic rats, the increased food intake and the impaired glucose tolerance, the increased glucose and ghrelin levels and the decreased glucagon-like peptide-1 (GLP-1) levels were found. The SG and RYGB led to an improvement of these indicators. As compared to sham rats, in the RYGB group, the expression of the orexigenic genes encoding the agouti-related polypeptide and ghrelin receptor was reduced significantly, and the expression of the anorexigenic genes encoding the leptin receptor, MC3- and MC4-melanocortin receptors and pro-opiomelanocortin was increased and did not differ from the control group. In the SG group, the expression of the orexigenic and anorexigenic factors was partially restored, but less pronounced than in the RYGB group. Additionally, the SG led to a significant increase in the GLP-1 receptor gene expression.

Conclusion:

Thus, the SG and RYGB led to normalization of food intake and metabolic parameters in non-obese T2DM rats, restoring the balance between the orexigenic and anorexigenic signaling pathways in the hypothalamus, most effectively in the case of the RYGB.

This work was financially supported by the Russian Science Foundation (project No 17-75-30052).

P-161

THE OPTIMAL TACTICS OF SURGICAL TREATMENT OF PATIENTS WITH EXTREME FORMS OF OBESITY

Basic science and research in bariatric surgery

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Introduction:

The prevalence of extreme forms of obesity (BMI > 50 kg/m2) is increasing everywhere in accordance to the growing prevalence of this disease, which determines the relevance of issue of surgical treatment. Despite the increase in the frequency of bariatric interventions performed in patients with super-and super-super-obesity, question of choosing the optimal surgical treatment tactics remains debatable.

Objective:

Evaluation of the effectiveness of various types of bariatric interventions in patients with super- and super-super-obesity and determination of optimal tactics for surgical treatment of this category of patients.

Methods:

This study included 156 patients operated between 2014 and 2018 in different clinics in St. Petersburg who underwent various types of surgical interventions: laparoscopic sleeve gastrectomy (LSG, 61 patients, 39,1%), laparoscopic Roux-en-Y gastric bypass (RYGB, 28 patients, 17,9%), laparoscopic mini-gastric bypass (MGB-OAGB, 25 patients, 16%), two-stage bariatric intervention, including intragastric balloon placement and LSG (IGB+LSG, 19 patients, 12,2%) and intragastric balloon placement and RYGB (IGB+RYGB, 23 patients, 14,8%).

Age structure was: LSG, patients up to 45 y.o. - 31 patients (50,9%), LSG, patients more than 45 y.o. – 30 patients (49,1%), RYGB, patients up to 45 y.o. – 14 patients (50%), RYGB, patients more than 45 y.o. – 14 patients (50%), MGB-OAGB, patients up to 45 y.o. – 13 patients (52%), MGB-OAGB, patients more than 45 y.o. – 12 patients (48%), IGB+LSG, patients up to 45 y.o. – 10 patients (52,6%), IGB+LSG, patients more than 45 y.o. – 9 patients (47,4%), IGB+RYGB – patients up to 45 y.o. – 10 patients (43,5%), IGB+RYGB – patients more than 45 y.o. – 13 patients (56,5%). Groups were compared to each other. The results of laboratory and instrumental research, dynamics of anthropometric data, analysis of complications were evaluated at preoperative stage and after surgery. The follow-up period was 2 years.

Results:

%EBMIL in patients with super-obesity was 53,3± 8,15% 1 year after LSG, 80,9±11,33% 1 year after RYGB, 80,15±11,44% 1 year after MGB-OAGB, 82,51± 9,11%% 1 year after IGB+LSG/RYGB.

The achievement of glycemia control was observed in 22,1% patients with super-obesity and diabetes mellitus type 2 1 year after LSG, in 73,7% patients with diabetes mellitus type 2 1 year after RYGB, in 68,4% patients with diabetes mellitus type 2 1 year after MGB-OAGB and in 66,7% cases after IGB+LSG/RYGB.

The dyslipidemia reduction was observed in 67,2% of patients post-LSG, 87,5% post-RYGB, 80,5% post-MGB-OAGB, 68,6% post-IGB+LSG/RYGB.

Weight regain was observed in 11,8% patients 2 years after LSG, 6,7% patients 2 years after RYGB, 7,2% patients 2 years after MGB-OAGB, 9,3% 2 years after IGB+LSG/RYGB. Nutritional deficiencies were observed in 1 case after LSG, 2 cases - after RYGB, 2 cases - after MGB-OAGB, 6 cases - after IGB+LSG/RYGB. The surgical complications were: petersen hernia– 1 case after RYGB (IIIb Clavien-Dindo), reoperation due to the weight regain (the increase of the volume of stomach)– 6 cases after LSG (IIIb Clavien-Dindo, conversion to MGB-OAGB), the gap of the baloon and duodenal obstruction – 2 cases after IGB+LSG/ RYGB (IIIb Clavien-Dindo) , stricture of the gastroenteroanastomosis– 1 case after IGB+ LSG/ RYGB (IIIb Clavien-Dindo). The median time of the surgical interventions was 55±15 min for LSG, 80±15 min for RYGB, 70±15 min for MGB-OAGB, 25±10 + 90±15 min for IGB+ LSG/ RYGB.

Conclusion:

Patients with super-obesity should be performed combined surgical interventions (RYGB or MGB-OAGB) due to its greater effectiveness in reducing body weight and the related diseases, lower percentage of weight regain in the long term compared to LSG, no risks of complications related to the balloon with a comparable result of reducing body weight, lower percentage of complications and less operation time compared to IGB+LSG/RYGB.

The choice of surgical intervention tactics in patients with extreme forms of obesity should be based on the principles of maximum effectiveness and safety, with mandatory consideration of intra - and postoperative risks and taking into account a number of comorbidities.

P-162

THE PHYSICAL THERAPY PROTOCOL APPLIED TO THE IMMEDIATE POSTOPERATIVE PERIOD OF BARIATRIC SURGERY

Integrated health

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Introduction:

Bariatric surgery has proven to be the best treatment for morbid obesity and has been the most used procedure in recent years. Physiotherapy is part of the multiprofessional team, being important in the moments of pre, intra and post surgery, aiming at faster recovery, minimizing cardiorespiratory complications and favoring early discharge. Objective: Our objective was to develop and implement a protocol for motor and respiratory exercises with a focus on reducing hospital stay and avoiding the need for non-invasive ventilation. Method: After 12 hours of surgery, the physiotherapeutic protocol was performed on all individuals (n = 251), through breathing exercises with and without the use of previously trained respiratory stimulators, in addition to metabolic, motor and walking exercises. Result: After the surgical intervention, all individuals evolved to extubation, considerably reducing the time of invasive mechanical ventilation and excluding the need for non-invasive ventilation. Conclusion: After physical therapy, the individuals obtained good respiratory dynamics, maintaining stable parameters, as well as successful extubation and without the need for non-invasive ventilation as a ventilatory support. Therefore, physical therapy follow-up is able to minimize complications and promote good recovery, accelerating hospital discharge.

Key words: Postoperative period care; Postoperative pulmonary complication; Physical Therapy Specialty

Background:

Obesity is considered a chronic disease of increasing prevalence, acquiring big proportions,1-2 being a worldwide public health problem with high rates of morbidity and mortality.3-4-5 A severe disorder that reduces life expectancy, increasing the risk of developing osteoarticular diseases, emergence of numerous related chronic diseases, such as: diabetes mellitus, hypertension, pulmonary dysfunctions;6-7 and other comorbidities, that cause social and emotional disturbances.8

The excess of fat in the abdominal cavity exerts a direct mechanical effect on the diaphragm muscle and the chest,7-8 changing the complacency and pulmonary resistance of people with obesity, leading to a rapid breathing pattern and low amplitude, increasing respiratory work and limiting the maximum ventilatory capacity.9

The clinical approach is generally ineffective in combating weight over the long term and the bariatric surgery has proven to be the best and the most commonly used treatment for morbid obesity.4-6

The biggest problems that bariatric surgery individuals face in the postoperative period are the pulmonary complications,6-10 because in addition to the existing changes, the procedures for upper abdominal surgery can affect the respiratory muscles, contributing to an inadequate performance of respiratory muscles after surgery, and diaphragmatic dysfunction the main factor of postoperative complications.10

The incidence of pulmonary complications are clinically relevant to the postoperative period of abdominal surgeries, with prevalence of morbidity and mortality, being the pulmonary embolism, atelectasis and pneumonia the respiratory complications with more incidents, increasing the time of hospitalization , the use of medication and higher hospital costs.4-11-12

The pre-operative physiotherapeutic intervention in adults has shown satisfactory results in the prevention of breathing disturbs,13 as part of the multidisciplinary care, being its importance both before and after the procedure,14 for faster recovery after surgery, with the aim of avoiding complications.14 -15

Noninvasive ventilation (NIV) can be considered as a prophylactic and therapeutic tool to improve gas exchange and pulmonary function in individuals in the postoperative period.16 -17

The objective of this study was to create and apply a physiotherapeutic operating protocol for individuals aiming at the reduction of respiratory and motor complications intra and postoperative problems, reducing the hospitalization time and preventing noninvasive ventilation.

Methods:

It is a descriptive cross-sectional study with a convenience sample, in which were selected 251 individuals of both sexes, assisted at the Clinic Vida Vale, Taubaté-SP, Brazil operated by a multidisciplinary team specialized in diseases of the Digestive System (EMAD), whose inclusion criterion was being obese (Body Mass Index (BMI) greater than 35 Kg/m2 with associated comorbidities or BMI greater than 40 kg/m2), who underwent bariatric surgery. The study was approved by the research ethics in humans with the opinion number 1458166. The physiotherapeutic assessment was performed approximately 02 months before the surgery, being performed once per week for 08 weeks, a protocol of 09 exercises involving respiratory fitness, aerobic exercises, guidance of respiratory exercises at home and encouraging physical activity during the week.

After the surgery, following 15 hours of the procedure , there was a physiotherapy protocol na all the patients had the same type of care, amounting on average 30 minutes of therapy. The individuals wore compressive socks and pneumatic boot with their heads elevated at 45º to 60º, until the physiotherapist arrival.

Once at the patient's bedside the physiotherapist collected the vital signs (heart rate, respiratory rate, oxygen saturation, blood pressure and pulmonary auscultation), take out the pneumatic boot, raised the headboards, keeping the patient in semi-sitting position, and started the exercises (table 1).

After physiotherapy, the individuals were instructed to perform metabolic exercises for both disorders of the upper limbs and lower limbs, maintain the headboard higher, Respiron®, perform postural changes every two hours and diaphragmatic breathing.

Results:

The group of participants in this research were individuals with an average age of 37.8 (SD=9,8years) ranging from 17 to 69. The average BMI was 41.7 (SD=4.4 kg/m2) with a variation of 35 to 57.5 kg/m2. Soon after the surgical procedure, all of them progressed to extubation, without any extension of invasive mechanical ventilation time. In the recovery room, the individuals remained without the need for noninvasive mechanical ventilation and with a good conscience breathing. In relation to the acceptance of the exercises proposed in the protocol, all the individuals (100%) were able to perform it without complaint; the report of respiratory discomfort was only in relation to the surgical incision, without complaints about dyspnea or any respiratory discomfort.

Discussion

Obesity is associated with alterations in the pulmonary function, which is more dramatically affected in proportion to the amount of adipose tissue.18 In our study, the average BMI was 41.7 kg/m2 presenting a higher frequency in females patients. Pulmonary complications related to the surgical procedure are common,19 several respiratory problems are described before and after bariatric surgery.10-20-21 in the postoperative period the most cited are atelectasis, pneumonia, respiratory insufficiency and exacerbation of underlying chronic lung disease.22

In our study we analyze that no patient developed respiratory complications or motor complications.

Only 09 studies associate physiotherapy, morbid obesity and bariatric surgery23. From these references a postoperative protocol was elaborated with 04 activities, consisting of muscle relaxation, respiratory conditioning with the use of respiratory incentive, use of pursed-lip breathing and walking for 6 minutes.

We developed a protocol with seven exercises including breathing exercises, exercises with incentive spirometry, metabolic, walking exercises, in addition to guiding the importance of maintaining and exercises during hospitalization and after 15 days of operation.

The conclusion of a study by Forti10 with 44 volunteers was that both conventional respiratory physiotherapy, as well as the conventional therapy associated with electrical diaphragmatic transcutaneous stimulation promotes the maintenance of pulmonary function. It was also observed that inspiratory muscle strength was maintained within normal parameters for both therapies proposed, however the group that had the intervention additional preserved the expiratory muscle strength better which is fundamental for the recovery of individuals with obesity undergoing surgery. Our postoperative protocol does not include the evaluation of respiratory muscle strength, but we observed that the conventional physiotherapy maintains the lung function, as well as in the study.10

In a different study was developed a protocol24 of five exercises, applied in 19 patients 24h after laparotomy surgery, where the group observed that the treatment of respiratory physiotherapy even on the first postoperative day, contributed to the improvement of the respiratory condition with respect to the tidal volume and minute, and the inspiratory and expiratory pressures, but it was evidenced increased pain after physical therapy activities.

Our individuals reported no pain, some felt discomfort due to the surgical procedure. Despite this, the exercises were well accepted by them, without any interruption nor complication.

The study the Olbers et al 25 concluded that the therapy proved to be effective, because all patients were discharged within 40 hours after the surgery without aggravations, maintaining respiratory awareness and good respiratory mechanics. Nevertheless, it is worth mentioning that the present research found that with only one session in the first postoperative, they could see significant improvements in mobility and conscious breathing.

A group from the University of São Carlos –UFSCAR 26 evaluated the effect of noninvasive ventilation with two levels (BiPAP), compared with the conventional therapy. Applying the BiPAP in the first four hours of immediate postoperative, performing the measurement of variables of pulmonary function 24 hours afterwards. They conclued that there was no significant difference between those who received BiPAP with the control group in relation to the loss of vital capacity, maximal inspiratory pressure in the postoperative period and the incidence of atelectasis.

In our study we invested in the creation of the protocol with exercises, due to its low cost and good adherence of individuals. It is frequently sad 27 that the failure of noninvasive ventilation, occurs due to claustrophobia, anxiety, lack of synchronization between the patient and the fan or a low tolerance to the interface, which can be caused by excessive pressure on the face causing discomfort. Through such data, it is suggested that the pre and post- operative physiotherapy is of paramount importance for the prevention of complications and should be instituted as early as possible.28

Conclusion:

The extubation procedure envolved successfully without the need of noninvasive ventilation after the surgical procedure. Through the protocol of immediate postoperative physical therapy, not only the pacientes had a better recovery, but also they felt more confident without complaints regarded pain, with stable parameters, finally evolving to hospital discharge.

In conclusion, the excellent relationship during the process between the multidisciplinary team (doctors, surgeons, nutritionists, physiotherapists and psychologists) and the individuals, resulted in an extremely efficient outcome taking into account the multiple aspects involved.

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POSTER ABSTRACTS

P-163

THE ROLE OF BILIO-PANCREATIC LIMB IN NONALCOHOLIC STEATOHEPATITIS IMPROVEMENT AFTER DUODENAL–JEJUNAL BYPASS IN RATS

NASH and bariatric surgery

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Background:

Non-alcoholic fatty liver disease (NAFLD), highly associated with obesity, includes non-alcoholic steatohepatitis (NASH). Lipopolysaccharides (LPS) from the intestine are reported to induce inflammation in the liver in NAFLD. We have shown that duodenal–jejunal bypass (DJB) could improve NASH findings in diet-induced NASH rats with obesity via an anti-inflammatory effect of plasma bile acid (BA) elevation followed by the stimulation of farnesoid X receptor (FXR) signaling. On the other hand, in T2DM rats with obesity, excision of the bilio-pancreatic limb (BP-limb) in DJB canceled the anti-weight gain and anti-diabetic effects obtained in DJB with a 30-cm BP-limb. Thus, the BP-limb in DJB might play an important role in the improvement of NASH.

Objectives:

This study aimed to examine the role of the BP-limb in the effect of DJB on NASH, with respect to the gut–liver axis, using a rat model. Methods: NASH model rats were randomly assigned into three groups: sham group and two DJB groups. The two DJB groups were defined according to the BP-limb length: 30 cm (30-DJB group) and 0 cm (0-DJB group). Pathology findings and blood biochemistry, inflammatory cytokine and LPS receptor mRNA in the liver and common channel (CC), and LPS-binding protein (LBP) level in the portal vein (PV) were assessed.

Results:

The decrease of plasma alanine aminotransferase level and NAFLD activity score obtained in the 30-DJB group was not observed in the 0-DJB group, which was similar to the sham group. In the liver tissue, mRNA of inflammatory cytokines and LPS receptors, the area occupied by CD68-positive macrophages, and the number of CD3-positive T lymphocytes on immunostaining were lower in the 30-DJB group. However all of these improvement findings were canceled in the 0-DJB group. Furthermore, LBP levels in the PV and mRNA expressions of inflammation-related genes in the CC showed similar tendencies.

Conclusion:

The BP-limb plays an important role in the beneficial effect of DJB for NASH. The BP-limb may suppress LPS-related cascades in the liver by reducing intestinal inflammation.

P-164

THE SAFETY AND FINANCIAL BENEFITS OF DISCHARGE ON POST-OPERATIVE DAY ONE AFTER BARIATRIC SURGERY

Enhanced recovery in bariatric surgery

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Background:

Although there is increasing evidence that bariatric surgery can be safely carried out within an enhanced recovery after surgery (ERAS) programme, there is considerable heterogeneity as to the criteria for discharge between centres. Within our unit, we have established a protocol that aims for discharge on post-operative day one (POD 1) based on the clinical picture, without the need for routine laboratory tests.

Objective:

To examine the safety and cost-effectiveness of discharge on POD 1 based on clinical review and vital parameters.

Methods:

Retrospective analysis of 100 consecutive bariatric procedures in 2020. Primary outcomes were length of stay, re-admissions and complications. Cost savings were based on national tariffs of £12 for a set of blood tests (full blood count, urea and electrolytes and C Reactive Protein) and £480 for an overnight stay.

Results:

This study cohort included 60 LRYGB and 40 LSG of which 10 and 4 respectively were revisional. 91 patients were discharged on POD 1 (86.8% Female, Mean BMI 45.7 kg/m2, average age 45.9 years). There were 6 re-admissions (five Clavien-Dindo Grade I, one Grade III-b) for cellulitis, port site haematoma, constipation, nausea, non-specific abdominal pain and one obstruction at the jej-jejunostomy anastomosis, with the latter requiring a re-operation. Retrospective case review suggested routine laboratory tests would have not changed the decision to discharge on POD 1. For this cohort of patients there was a saving of £1092 for blood tests, with an additional saving of £43680 if each patient had stayed an extra night.

Conclusion:

Our study demonstrates bariatric surgery can be carried out safely within an ERAS programme, without the need for routine blood tests on POD 1. Our discharge criteria not only provides financial benefits, but also not having to wait for unnecessary laboratory tests improves the likelihood of timely discharge.

P-165

THERAPY RESISTANT REFLUX AND GASTROPARESIS AFTER SLEEVE GASTRECTOMY IN TYPE I DIABETES PATIENT

GERD and bariatric surgery

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Introduction:

We present a 48-years-old female patient who had a laparoscopic sleeve gastrectomy in 2014. Preoperative weight was 104.8 kg (BMI 34.4 kg/m²) with a good weight loss to a nadir of 74kg. She has been diagnosed with insulin dependent type I diabetes since 1998 associated with diabetic retinopathy and neuropathy (type Charcot). A few years later she developed therapy resistant reflux and delayed gastric emptying despite high doses of proton-pump inhibitors. She has a stable weight of 82 kg (BMI 27.7 kg/m²).

Preoperative Tests:

Upper GI series demonstrate an intrathoracic herniation of the sleeved stomach of 4.5 cm. Endoscopy shows a sliding hiatal hernia with no reflux esophagitis. CT Scan confirms the intrathoracic herniation of the sleeve.

Methods:

We performed a transit bipartition type Santoro technique, creating a second outflow route of the stomach without a regulating sphincter. A gastrostomy was performed 10 cm proximal to the pylorus. At 250 cm distal to the ligament of Treitz, we created a side-to-side gastrojejunal anastomosis. Then, a side-to-side jejuno-jejunal anastomosis was created at 75 cm distal of the gastrojejunal anastomosis.

Results:

There were no postoperative complications. The patient was put on a liquid diet on the first postoperative day. She could be discharged on the second postoperative day. Follow-up after four months week shows complete resolution of reflux and dysphagia and a stable body weight of 81 kg.

P-166

TODAY'S STUDENTS ARE TOMORROW'S DOCTORS: AN EVALUATION OF CURRENT MEDICAL STUDENTS' KNOWLEDGE AND ATTITUDES OF OBESITY AND WEIGHT MANAGEMENT

Bariatric training

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Background:

Obesity is on the rise and many healthcare providers are not comfortable with addressing this issue with their obese patients. Hence, Weight Management Programs have been integrated in some of the medical school curriculums.

Method:

An observational cross-sectional study was conducted with an electronic questionnaire was sent to medical students in Oman. The questionnaire was purposely designed to suit this study. IBM Statistical Package for the Social Sciences (SPSS) 23 computer program was used to analyze the collected data.

Results:

Ninety-two participants have completed the survey. Average age was 22.6 years (69.6% Female). 52.2% were in their clinical years (Year 4 and above). About two-thirds believe their weight is ideal for their height and slightly more than half of the participants have tried to lose weight before. One participant had previous bariatric surgery and 5 have tried weight reduction medications. Almost all participants have agreed that obesity is a disease with health problems requiring urgent action (n=91). Eighty-four participants are aware that there is difference between overweight and obesity. However, the definition of morbid obesity (BMI >40kg/m2) was only known by 52 students (52.6%).

About half of the participating students attribute obesity as a result of lack of control and 83% believe that patients are primarily responsible for their weight. Two thirds of participants believe that the national health promotions to educate people about obesity as a health risk are not effective (63%). 12% believe bariatric surgery is a cosmetic procedure.

Different Bariatric procedures are known by 51% of the participants. Although 65% believe that bariatric surgery is effective with long term results, about 30% attribute bariatric surgery as not safe with high mortality.

Conclusion:

As obesity is on the rise, educating future care providers is important to improve service delivery. Although there is significance numbers of students understand the obesity related issues, lack of knowledge on management exist.

P-167

TOTALLY ROBOTIC SLEEVE GASTRECTOMY WITH TRANSIT BIPARTITION

Robotic bariatric surgery

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Introdução:

O Video Mostra Um Procedimento De Bipartição Do Transito Intestinal Totalmente Robótico (Plataforma Davinci Xi).

P-168

TRASTORNOS DE LA CONDUCTA ALIMENTARIA Y CIRUGÍA BARIÁTRICA: IMPORTANCIA DE LA EVALUACIÓN POR SALUD MENTAL Y RESPUESTA A LA REGANANCIA DE PESO CON ANÁLOGOS DE GLP-1: DESCRIPCIÓN DE CASO CLÍNICO

Nutrition, eating behaviors before and after bariatric surgery

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Introduccións:

Paciente de 43 años, con antecedentes de Bulimia Nerviosa desde los 5 años de edad, sometida a BPG año el 2000, sin evaluación por salud mental, con IMC 40. Baja a IMC 25 , continuando con su trastorno de conducta alimentaria (TCA) durante todo el tiempo, con varias complicaciones derivadas. En pandemia sufre reganancia de 20 kg asociado a binge severo. Consulta a cirugía bariátrica para BPG revisional. En evaluación por salud mental se diagnostica binge severo, y se deriva a equipo multidisciplinario.

Objetivos:

Descripción de caso clínico de paciente con TCA severo sometida a BPG con mala evolución de su TCA y reganancia de peso.

Método:

Descripción de caso clínico.

Resultados:

Paciente es derivada a equipo multidisciplinario y se indican análogos de Glp-1. Buena respuesta, paciente logra control de síntomas de TCA, y pérdida de peso de un 10% de su peso inicial.

Conclusión:

La evaluación por salud mental de los pacientes previo a la realización de una cirugía bariátrica es fundamental para la detección de TCA, debido a que estos pacientes requieren apoyo especial y manejo de su TCA previo y posterior a la realización de su cirugía bariátrica. El manejo farmacológico de la reganancia de peso en pacientes con TCA sometidos a cirugía bariátrica es efectivo.

P-169

UNDERSTANDING PERCEPTIONS AND STIGMATIZATION SURROUNDING OBESITY IN SINGAPORE – A POPULATION STUDY

Registries and quality in bariatric surgery

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Background:

Almost two decades ago, the World Health Organization (WHO) coined the term “globesity”, to signify the escalating global epidemic of obesity. In the 2017 National Population Health Survey conducted in Singapore, 8.7% of Singapore’s adults were obese. Weight stigmatization has also continued to persist, not only at workplaces, within families but also at education and healthcare settings.

Objectives:

Recognizing weight discrimination as a potential harm to both mental and physical health, and an obstacle in tackling obesity, we decided to examine perceptions and stigmatization surrounding obesity at a local Singapore setting via a population study.

Methods:

A questionnaire was designed to collect data on the demographics of patients referred to the SWITCH (Sengkang Weight Improvement Therapy & Complete Health) program at Sengkang General Hospital, their attitudes towards obesity and obesity management, and psychosocial impact of obesity on them. The survey was conducted between October 2019 to March 2020 and then from July to August 2020. Results from the study were analysed by Moaform and then generated into an excel spreadsheet for further analysis.

Results:

Throughout the study period of 8 months, there were a total of 101 respondents. 43.6% were male and 56.4% were female. Median age of the respondents is 39 years old. In terms of ethnic composition, 47.5% were Chinese, 33.7% were Malays and the rest were Indians. The respondent with the lightest weight is 65kg whereas the heaviest is 180kg. The median BMI of the respondents is 39.5 kg/m2. The lowest BMI is 24.8 kg/m2 and the highest BMI is 61.7 kg/m2. 54.5% consider obesity as disease, 24.8% do not and 20.8% are unsure. 76.2% believes that they are solely responsible for their weight. 91.1% has attempted weight loss previously. 60.4% believe that more than 20% weight loss is required for health benefits. 60.4% of respondents have faced criticisms or been abused due to their weight, 33.7% have been bullied at school and 27.7% missed out on jobs.

Conclusion:

Countries and governments around the globe have implemented numerous health programs and policies in order to tackle obesity. However, weight stigmatization, which has been a major obstacle in combating obesity might have been overlooked. Not only governments, media, public health authorities or academic institutions are responsible in tackling weight bias, but everyone plays a part in eliminating this social stigma.

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P-170

UNDETECTED GASTRIC SLEEVE LEAK IN A DEVELOPING COUNTRY, A RECIPE FOR DEATH

Post-operative complications

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Introduction:

Laparoscopic Sleeve Gastrectomy (LSG) has become one of the most commonly performed surgical treatments for obesity. (1, 2) Unfortunately, its apparent simplicity conceals many serious, sometimes fatal, complications. (2) Leaks usually happen due to staple dehiscence, poor blood flow, and infection. (1, 3) Diagnosis of a gastric leak can be difficult, as presentation ranges from asymptomatic to a severe septic shock. (1, 4) If the diagnosis is delayed or missed, it can lead to catastrophic consequences. (1, 2) Treatment of the leak will depend on the time of diagnosis and can include oversewing, drainage, endoscopic treatment, fibrin glue, stents, Roux-loop, and even total gastrectomy. (3, 4, 5)

Objectives:

Describe our experience managing a leak after LSG in a developing country with limited resources.

Methods:

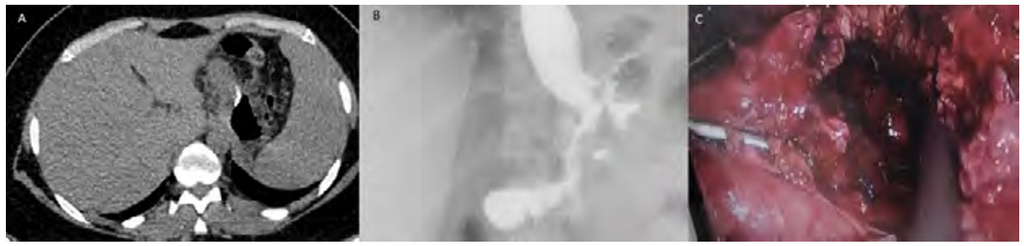
We present the case of a 26-year-old female with morbid obesity (BMI 41). She underwent a gastric sleeve and was discharged from a private clinic without apparent complications. Five days after surgery, she developed fever, nausea, and lower abdominal pain; as she ran out of resources, she was forced to seek aid in a public institution. With these symptoms and due to a lack of radiology and technical equipment, she was misdiagnosed with an intestinal infection and was given broad-spectrum antibiotics for 15 days without improvement. As her condition worsened, surgical consultation was needed. With the help of several charitable grants, further studies eventually led to a diagnosis of a gastric leak near the EGJ with contrast extravasation. (Fig 1)

Results:

With these findings, laparoscopy was needed, and a 1 x 0.7 cm leak was detected in the EGJ surrounded by an abscess; a drain was placed along with a feeding jejunostomy tube. She was admitted to the UCI, and after she was stable, a stent was set thanks to the economic aid of the doctors, nurses, and the entire patient's family. Five weeks later, the stent was removed, and the leak healed. (Fig 2)

Conclusion:

Leaks after LSG are not all the same; the management plan will depend on enteral feeding, presentation timing, peritonitis, presence of stricture, and, as this patient proves, financial barriers and access to healthcare. Poverty impacts health, especially in surgical complications where expenses rise. Nonetheless, regardless of the patient's ability to pay, we must always seek to provide adequate care even in severe circumstances such as those found in developing countries.



P-171

USO DE AGONISTA DEL GLP-1 Y EJERCICIO FÍSICO COMO ALTERNATIVA TERAPÉUTICA PARA EL TRATAMIENTO DE LA OBESIDAD Y SOBREPESO

Atención multidisciplinaria (atención primaria, gestión médica)

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Introduccion:

La obesidad es una enfermedad crónica, multifactorial y muchos la consideran la epidemia más importante del siglo XXI, destacada por un exceso de tejido adiposo, lo que se traduce en un aumento de peso corporal. Chile es el segundo país de Latinoamérica con mayor sobrepeso y obesidad de la OCDE (organización para la cooperación y el desarrollo económico) con un 74,2% de su población afectada.

Dentro de la gran cantidad de tratamientos para tratar la obesidad, encontramos el uso de agonista del péptido similar al glucagón tipo 1 (GLP-1), el cual actúa retardando el vaciado gástrico y aumentando la sensación de saciedad, demostrando que en dosis de 3 mg/día, resulta ser la mejor alternativa para la pérdida de peso reduciendo entre 5-15% del peso corporal basal.

Objectivo:

A raíz de lo expuesto, el presente estudio busca cuantificar los resultados de un programa de ejercicios de tipo aeróbico y de fuerza en combinación con agonista GLP1, analizando los cambios en la composición corporal y capacidad cardiovascular

Metodos:

Los participantes del estudio fueron 35 pacientes adultos con sobrepeso u obesidad se sometieron a tratamiento con agonistas de GLP-1 y se aplicó una pauta de ejercicios mixtos durante 4 meses. El tratamiento se inició con dosis mínimas de 0,6 mg/día, hasta llegar a 1,2 mg/día, según los requerimientos individuales de cada paciente, además del programa de ejercicios físicos aeróbicos y de fuerza, de aproximadamente 40 minutos por sesión, realizado 4 veces una semana, con intensidad moderada Se realizó un seguimiento durante 4 meses, donde fueron realizadas mediciones de peso corporal, porcentaje de grasa, IMC y masa muscular, mediante bioimpedancia, Además fue aplicado el test de Ruffier durante el primer y cuarto mes, para evaluar su desempeño cardiovascular.

Resultados:

El análisis comparativo mensual de grasa corporal mediante demostró diferencias significativas (p= 0,020) a diferencia de la masa muscular, que no demostró ninguna (p= 0,73). La capacidad cardiovascular también mejoró, demostrando diferencias significativas entre el primer y cuarto mes (p=0,001). el IMC y el peso corporal presentaron una relación positiva alta (r=0,907) el primer mes, manteniéndose de la misma forma hasta el cuarto mes (r:0,9).

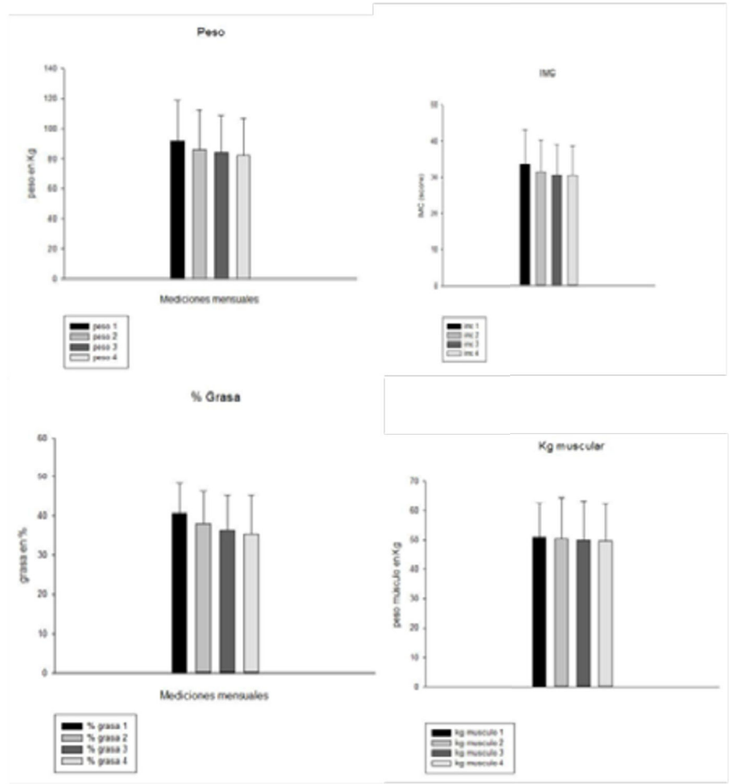
Conclusión:

Con este estudio se observa que el tratamiento con agonistas del GLP-1 acompañadas de ejercicio físico mixto, parece ser una alternativa terapéutica segura y eficaz respecto a la pérdida de peso corporal, IMC y% de grasa sin generar pérdida de masa muscular, además de mejorar la capacidad cardiorrespiratoria de los pacientes intervenidos.

Análisis descriptivo de la muestra

Variables	Mes 1	Mes 2	Mes 3	Mes 4
Edad	37,8 ± 11,9			
Sexo Femenino Masculino	 27 (77,14%) 8 (22,8%)			
Talla	1,6 ± 0,098			
Peso	91,7 ± 27,1	86,0 ± 26,4	83,8 ± 24,9	82,5 ± 24,2
IMC	33,5 ± 9,2	31,4 ± 8,8	30,5 ± 8,4	30,3 ± 8,1
% Grasa	40,5 ± 7,6	37,8 ± 8,3	36,3 ± 8,8	35,2 ± 9,8
Kg Músculo	51,0 ± 11,5	50,5 ± 14,0	49,9 ± 13,2	49,7 ± 12,7
% Agua	44,6 ± 9,8	44,3 ± 4,6	45,2 ± 4,9	45,8 ± 5,6
Test de Ruffier	Inicio			Final
Ruffier	13,4 ± 2,5			9,7 ± 1,5

COMPOSICION CORPORAL



P-172
WHEN DUODENO-PANCREATECTOMY-CEPHALIC IS NECESSARY AFTER A BARIATRIC SURGERY AS SADI-SLEEVE: A CASE REPORT AND SURGICAL TECHNIQUE

Bariatric surgery and cancer

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Introduction:

Obesity increases the risk for pancreatic cancer, that can be treated by Roux-en-Y gastric bypass as well as SADI-S but has a high morbidity. We presented a report of pancreaticoduodenectomy in a patient who had SADI-sleeve 5 months before, with special emphasis on preoperative treatment and the surgical method.

Following a failed sleeve gastrectomy, a 58-year-old lady had laparoscopic SADI and Re-Sleeve gastrectomy for a BMI of 35.6 kg/m (88 kg, stable weight since more than 12 months). The patient healed nicely following the treatment, but four months later she developed jaundice. Because of the tumor's location and the unusual architecture, it was hard to see the lesion. Expert views were used to validate a pancreaticoduodenectomy.

Pancreatic cancer is the third greatest cause of cancer mortality, after just lung as well as colorectal cancers. Although complete surgical resection considerably improves survival, most pancreatic cancer sufferers are discovered late in the disease's progression with locally progressive disease or distant metastases, and only a small proportion of patients become surgical candidates. Obesity and pancreatic cancer have been linked in large epidemiological research. Obesity was related with a statistically significant 50–60% higher risk of pancreatic cancer in a major population-based research study of pancreatic cancer (4–6) Mizrai JD et al Lancet 2020, Klein AP, Nat Rev Gastroenterol Hepatol 2021

Obesity is a growing problem worldwide in addition to a risk factor for the development of pancreatic malignancy (1)Smith G, et al J Natl Cancer Inst 2017, Mizrai JD et al Lancet 2020. With the spreading of bariatric surgery and the development of new surgical techniques, pancreatic surgeons will increasingly be asked to treat patients who have already undergone bypass procedures, such as Roux-en-Y gastric bypass (RYGB) or single- anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S)(2) Aggrisani 2020 obesity surg. These patients represent a diagnostic and therapeutic challenge when they have a clinical and radiological evidence of periampullary diseases, due to the unconventional anatomy after the surgical reconstruction which could preclude transoral endoscopy, limiting the possibility to obtain a histological diagnosis(3).

To date, as far as we are aware ninety-six patients with a previous RYGB undergoing pancreatic head resection were assembled in a multinational , multi-center collaborative of 55 pancreatic surgeons who have performed pancreatoduodenectomy or total pancreatectomy following RYGB for obesity (2005–2018). This study conclude that these patients do not appear to suffer higher morbidity than those with unaltered anatomy. Various technical reconstructive options do not appear to confer distinct benefits(7).

Furthermore, A case was reported in 2008 described a case of pancreatic head cancer identified 3 months after laparoscopic sleeve gastrectomy for morbid obesity diagnosed during routine follow-up, a pylorus-preserving pancreatic head resection was done the postoperative course was uneventful(16).

We present a case of pancreaticoduodenectomy in a patient who underwent SADI- sleeve 5 months before, paying particular attention to the preoperative management and the surgical procedure.

Case Report:

After a failed sleeve-gastrectomy, a 58-years-old woman underwent laparoscopic SADI and Re-Sleeve gastrectomy for a BMI of 35.6 kg/m 2 (88 kg, stable weight from more than 12 months) and associated obstructive sleep apnea.

This laparoscopic SADI-S procedure was performed through the single port technique (Mid-LAPSINGLE) with a 250 cm common ileal loop was measured backwards from the ileocecal valve. This ileal loop is transposed (antecolic) to the transected proximal duodenum and a side-to-side mechanic anastomosis was performed. The patient recovered well, but 5 months postoperatively she developed jaundice. Her total bilirubin was 15,3 mg/dl, gamma glutamyl transferases 2638 UI/l, CA 19-9 223.8 U/ml, IgG4 0,288 g/l. Ultrasound imaging showed a dilatation of the main bile duct, and a CT scan revealed the presence of an obstructive contrast-enhancing lesion of the pancreatic head with right side invasion of the portal vein, associated to a dilatation of the biliary tree and the main pancreatic duct, without evidence of hepatic or pulmonary metastasis.

With the purpose to determine the histological nature of this lesion, the patient underwent an endoscopic ultrasound (EUS) performed until the first duodenal part, but because of the position of the tumor and the unconventional anatomy, it was impossible to visualize the lesion and the needle aspiration biopsy was failed. A percutaneous trans-hepatic biliary drainage was placed to reduce the cholestasis and prevent infectious complications and an enteral feeding was started to enhance the patient's nutritional status.

The case was discussed in a multidisciplinary session with expert hepatobiliary surgeons, radiologist and oncologist and the surgical indication to a pancreaticoduodenectomy was validated.

We chose a bilateral subcostal incision. After an accurate exploration of the peritoneal cavity to assess the extent of the disease and its resectability, we proceeded with the resection of duodeno-ileal anastomosis for a better exposure of the surgical area, dividing the ileal loop from the first duodenal part.The pancreas was transected and the portal vein was tangentially resected and reconstructed using a peritoneal patch graft from the falciform ligament because suspicion of tumoral invasion, aiming to obtain a R0 resection.

For the reconstruction, a pancreatico-jejunostomy end-to-side hepatico-jejunostomy through were fashioned at a distance of 20 cm on a transposed transmesocolic jejunal loop. The duodeno-ileal anastomosis resected at the beginning of surgery was completely suppressed and the ileal continuity restored with a side-to-side mechanic anastomosis at a distance of 1.80 m from the ileo-cecal valve. The gastro-jejunal anastomosis was fashioned at 2.30 m from the ileo-cecal valve, with a side-to-side anastomosis.

During the first postoperative day (POD) the patient underwent a Doppler ultrasound which showed the presence of a satisfactory intrahepatic portal inflow. The amylase in drain fluid was dosed at POD 1, 3 and 5 with no biological evidence of postoperative pancreatic fistula. A routine CT scan was performed in the 7th day postoperatively showed no evidence of radiological pancreatic leak, nor intra abdominal collection.

Discussion:

Morbid obesity is a serious and growing health issue that results in significant health-care expenses. Interdisciplinary intervention, including bariatric surgery, is provided by major facilities with initiatives for these individuals. Obesity is known to increase the chance of developing pancreatic cancer (8).

According to the available research, the prevalence of gastrointestinal cancer in bariatric surgery individuals is lower than in the general public (ref?). The documented case reports on cancer following bariatric surgery all concur that diagnosing malignancy in the omitted gastric segment following a gastric bypass procedure is exceedingly challenging. The observed intervals among the gastric bypass surgery and cancer diagnosis extend up to 26 years (10).

A study conducted to analyses the procedure for Pancreatic Resection Following a Roux-en-Y Gastric Bypass showed five individuals were reported to the Digestive Disease Center in the Medical University of South Carolina in the two years with issues following gastric bypass that were curable with pancreatic surgeries. Two of the individuals' clinical manifestations were typical of the noninsulinoma pancreatogenic hypoglycemia syndrome. Two patients came with severe abdominal discomfort associated with medically resistant chronic pancreatitis, while one patient reported with a single tumor in the pancreas's midbody (4).

Many surgeons find it difficult to treat pancreatic cancer using pancreaticoduodenectomy (PD). Pancreatic fistulae, slow gastric emptying, and intra abdominal abscess development are the most prevalent consequences after PD. The prevalence of pancreatic fistulae after PD ranges from 5% to 40%, depending on the diagnosis used,1–3 and is strongly linked with surgical mortality (7).

When compared to other bariatric operations, sleeve gastrectomy offers significant benefits. In contrary to malabsorptive surgeries like the Roux-en-Y gastric bypass, there seems to be no malabsorption and hence no malnutrition because nutrients may pass through the intestines properly. The weight reduction obtained with sleeve gastrectomy, on the other hand, is equivalent to that obtained with malabsorptive surgeries. Furthermore, the procedure preserves the physiological digestive tract, allowing standard diagnostic methods such as endoscopy as well as endoscopic retrograde cholangiopancreatography to be performed, which is critical for order to diagnose pancreatic head cancer when no pathological results are discovered on CT (as in the argument mentioned here) or MRI (12,13).

Early on, the advantages of SADI-S as a stand-alone procedure in terms of both weight reduction and long-term diabetes management were clear. Different researchers have used SADI-S as part of a two-step treatment with gastric sleeve to boost its effectiveness, particularly for morbid obesity. Their findings were encouraging since they were able to lower the incidence of obesity-related comorbidities and avoid weight return. Furthermore, SADI-S has been frequently utilized as a revisional bariatric procedure in patients who had poor dietary compliance after a prior bariatric operation, leading to weight regain or uncontrollable diabetes. In such individuals, SADI-S resulted in long-term weight loss and reduction of numerous metabolic syndrome comorbidities lasting up to three years(14).

With the increasing number of bariatric procedures being performed, many additional cases of pancreatic cancer in this patient population will inevitably occur in the years ahead. The ability to obtain surgical resection amidst the anatomic alterations that LRYGB presents is therefore es- sential. Pancreaticoduodenectomy, an already complex pro- cedure, can be further complicated by the anatomic distor- tion of a previous LRYGB (15).

Conclusion:

Obesity and obesity-related morbidities are both treated with weight loss surgery, which is seen as a long-term treatment. With a growing percentage of pancreatic lesions getting detected on cross-sectional imaging, pancreatic surgeons are more likely to face patients who have had prior bariatric surgery and require pancreaticoduodenectomy. Realizing pancreaticoduodenectomy after SADI is feasible. The ability to accomplish surgical resection despite the anatomic changes that a SADI-S shows is thus critical. Pancreaticoduodenectomy, an already difficult treatment, might be made more difficult by the anatomic distortion caused by a previous SADI S procedure. It should be realize by laparotomy

As a result, surgeons must be knowledgeable with the different bariatric surgeries, as well as how to treat earlier bariatric reconstructions during pancreatic surgery.

P-173

WHY LAPAROSCOPIC SLEEVE GASTRECTOMY CAN GO SO WRONG

Sleeve gastrectomy

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Background:

In metabolic-bariatric surgery, laparoscopic sleeve gastrectomy (LSG) is considered to be technically easier compared to gastric bypass with a lesser morbidity. Thus, LSG has become the most commonly performed weight loss procedure worldwide, although thirty percent of the LSG patients need a second procedure. Also, this allegedly simple procedure can lure performing surgeons into a false sense of security as complications are far more dangerous and difficult to handle. It is crucial to consider correct preoperative indications for LSG and pitfalls in technique to produce effective and safe outcomes.

Objectives:

Preoperative evaluation and optimization can provide the correct indication for LSG. That includes detailed history of the patient, gastroscopy including biopsies of the gastroesophageal junction, as well as gastrografin study, esophageal manometry and 24h- pH-metry. This presentation is also about pitfalls in technique, prevention of complications, case presentation of negative courses after LSG including complication management, revisional surgery and how to get the best outcome by following certain rules.

Methods:

Literature research (Medline, Pubmed) of indications and complication management for LSG was performed and summarized with our personal experience.

Results:

From academic studies it is known that thirty percent of LSG patients will need a second procedure due to either short-term complications like leakage development, or long-term complications, e.g. strictures, reflux or weight regain. Current guidelines are not accounting for preoperative diagnostic of esophageal motility so far, furthermore, there is no consensus statement whether LSG has a higher potential for gastro-esophageal junction Barrett's esophagus and adenocarcinoma development. Certain topics, especially preop evaluation with gastrografin study, manometry and 24h-ph-metry do not reach consensus, but may predict outcome after LSG.

Conclusion:

There is a need for uniform guidelines regarding exact preoperative evaluation and patient selection for LSG as well as standardization of the technique and management of complications of LSG. It should be performed when preoperative patient evaluation, selection and indication are set correctly, especially in the absence of reflux providing a strong esophageal body motility and resting pressure. Thoughts should be given to technical aspects of the surgical procedure to minimize postoperative complications.

P-174

WORKING WITH THE POST-BARIATRIC PATIENT'S GROUPS: THE MOST DISCUSSED TOPICS

Behavioral health and bariatric surgery - Pre and post-op challenge

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Introduction:

Post-bariatric psychological support affect the recovery after bariatric surgery and offer an alternative way to work with post-bariatric patients to achieve the best quality of life. Into the group the participants feel free to share the common experience from the transition from obesity to normality. Heterogeneous groups about the date of surgery seems more effective to give feed-back into the group due to the different stages of the experience of each participant who enrich the total expressed experience.

Objectives:

To present the discussed topics among post-bariatric patients who participate in 6-months seasons of group therapy in Thessaloniki, Greece. Each group has 3 seasons of group therapy.

Methods:

Qualitative research and phenomenological approach was used with thematic analysis methodology to describe in depth the emerged data from the focus group with post-bariatric patients (n=40).

Results:

Working with post-bariatric patients offer a majority of issues discussed about their adaptation on the postoperative period. The data clustered about 10 basic topics: 1.Financial and economic: all about expenses for medication, specific nutrition, medical visits, check-ups, new clothes, vitamins intake, plastic contouring, 2. Biological and organic: including body changes, daily-life energy, habits and activities, 3. Cognitive: Thoughts, bariatric knowledge, medical vocabulary and names of diagnostics and symptoms, 4. Behavioral: Stress, depression, abuse, addictions, lack of motivation, loss of control, 5. Social: Sabotage, discrimination, mentoring, new hobbies, social environment changes, social empathy, 6. Interpersonal: family, sexual and romantic relationships, divorce, life changes, 7. Functional: professional competencies, sexual activities, body image, body shame, 8. Ethical: personal intimacy, private life, invisible existence, respect and understand for the others, manipulation, 9. Existential: nostalgia of the old obese image, death and suicide concerns, loneliness, new life on board, and 10: Spiritual: Faith issues, changes on the religion and spirituality mood and attitude.

Conclusion:

Bariatric surgery remains a strong life experience including important topics and concerns. Patients postoperatively must be supported by group therapies and talk about their lived experience. In addition, the same structure could be the best guide for pre bariatric group despite the fact that the members they do not yet have the surgery experience

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Video Abstracts

V-001

A GASTROJEJUNO-COLIC FISTULA: A RARE COMPLICATION FOLLOWING ONE ANASTOMOTIC GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background/Introduction:

Marginal ulcers at the gastrojejunal anastomosis are a well-known complication. A marginal ulcer should be suspected in any patient with abdominal discomfort after gastrojejunostomy. The most common symptom of a marginal ulcer is abdominal pain. Mucosal edema at the gastrojejunal anastomosis causes nausea and vomiting, but these are less frequent symptoms. In this video, we demonstrate the operative technique for the treatment of rare case of penetrating anastomotic ulcers to transverse colon occurring gastrocolic fistula following laparoscopic one anastomosis Gastric Bypass. A 42-year-old male underwent laparoscopic one anastomotic gastric bypass for morbid obesity two years prior to presentation at emergency room. Since then, he had lost approximately 80 kg. He presented with a two-month history of abdominal pain, nausea-vomiting, diarrhea and weight loss and was unable to tolerate an oral diet. Physical examination revealed cachexia and bilateral pitting peripheral edema. Laboratory investigations revealed HGB of 9.6 g/dl, serum potassium of 2.1 mmol/L, albumin of 2.1 g/dL, along with other markers of malnutrition and hypovitaminosis.

On gastroscopy, a structure with a luminal appearance was identified in the area of the gastrojejunal anastomosis. Upon advancing the gastroscope through this structure inadvertently, colonic rugae were ultimately identified, which suggested the presence of a gastrocolic fistula. The patient treated by TPN before surgery, and his electrolyte deficiencies were corrected.

Method:

After establishing a pneumoperitoneum, the local abdominal findings were assessed. Adhesions in the region of the anastomosis and the liver were taken down and a liver retractor inserted. The region of the gastrojejunostomy appeared thickened, the adhesions could not be separated using blunt dissection. A fistula penetrating from the dorsal aspect of the anastomosis into the transverse colon was identified. After mobilization of the fistula an en bloc resection of the fistula with the organs involved in the fistula were performed. Both side of the transverse colon was resected and detached from a fistula. The efferent limb, biliopancreatic limb and the end of the pouch were resected from the fistulated anastomosis. A new side to side transverse colon anastomosis was done and a roux-y gastric bypass using the resected ends of small bowel was performed.

Result:

Five days following surgery, the patient was discharged from the hospital without any complication.

https://vimeo.com/594794390/19634b9689

VIDEO ABSTRACTS

V-002

A GASTROINTESTINAL STROMAL TUMOR WAS DISCOVERED AT THE LESS CURVATURE OF THE STOMACH IN A ROUTINELY PREOPERATIVE ENDOSCOPY OF A PATIENT SCHEDULED FOR SLEEVE GASTRECTOMY. WHAT SHOULD WE DO?

The recommendation and role of endoscopy before bariatric surgery

E. Arias[1], C. Rodriguez Albanes[2], O. Montoya[2], F. Cuellar[2], F. Ruiz[2], M. Urquiza[3].

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Background:

There is debate regarding preoperative endoscopy is mandatory in patients undergoing bariatric surgery. A gastrointestinal stromal tumor (GIST) is usually detected as a subepithelial lesion during endoscopy, surgery is used to remove these tumors with minimal morbidity and excellent outcomes. The focus of this presentation is the preoperative decision to change the management of this morbid obese patient, caused by the presence of a GIST detected by endoscopy.

Methods:

A 41-year-old female patient, with morbid obesity and diabetes, was referred to our bariatric institution; the primary physician recommended her a sleeve gastrectomy. We detected during the routinely preoperative endoscopy, a 4cm subepithelial gastric tumor located at the incisura angularis, then, we discussed with the patient the management possibilities, and we decided for a Roux-en-Y gastric bypass with remnant resection. The surgery took 140 minutes completely done laparoscopically. The patient was discharged at the second post-operative day without early complication.

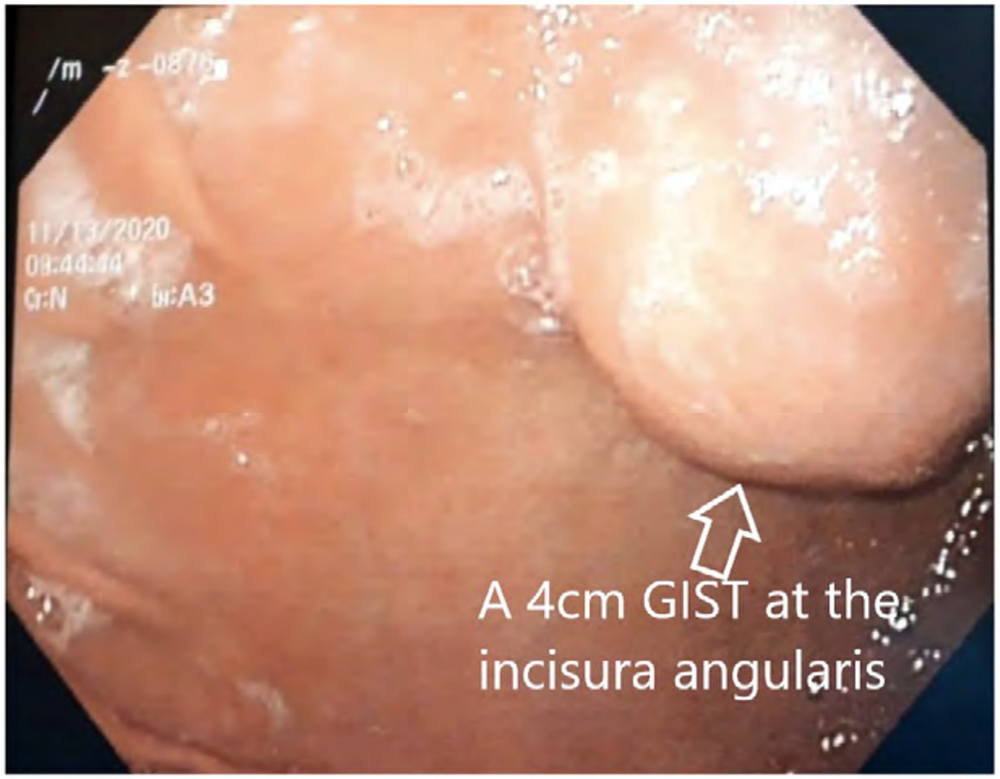
Results:

There is still controversy about the mandatory preoperative endoscopy in bariatric surgery practice, recently several systematic reviews have been published recommending a selective approach, perhaps, in this case the preoperative endoscopy was determinate to make the GIST diagnose, and to change the kind of bariatric procedure to perform. Regarding the decision to make a bariatric surgery at the same time of GIST excision is another controversy, but it was discussed with the patient, based on the CT scan and endoscopy images, and the difficulties to cover by herself a couple of surgery instead a single one, the decision was taken.

Conclusion:

Perhaps some authors recommend a selective approach to preoperative endoscopy, in this case it was determinate to make the GIST diagnose, and to change the kind of surgery to perform. Roux-en-Y gastric bypass with remnant resection is feasible to perform by laparoscopy and could be consider and option in morbid obese patient with GIST tumor depending on the location as we show in this case. The video shows the points of care during excision of gastric remnant, the surgery was completely done laparoscopically; the specimen was extracted over the umbilicus area, using a wound protector.

https://vimeo.com/722361312/3cece3b09b



V-003

A RARE CASE OF SMALL BOWEL OBSTRUCTION CAUSED BY GASTRIC BAND MIGRATION

Endoscopic and percutaneous interventional procedures

C. Rodriguez Albanes[1], I. Arias Ramírez[2], O. Montoya Tobar[1], S. Diaz[3].

[1]General Surgery, Obesity El Salvador, San Salvador, El Salvador; [2]Bariatric Surgery, Obesity El Salvador, San Salvador, El Salvador; [3]Surgery, Hospital Nacional Rosales, San Salvador, El Salvador.

Background:

The Adjustable Gastric Band (AGB) has been a restrictive bariatric procedure, used in the treatment of obesity, its use has now decreased. Complications such as stomach erosion and device migration have been partly the causes of disuse, AGB erosion is rare, and migration is even rarer. An unusual case of complication caused by the erosion and migration of AGB to the intestine is reported, sixteen years after its placement.

Methods:

A 57-year-old male with a history of morbid obesity, who underwent AGB placement 16 years ago; four years prior to his consultation, he noticed cutaneous erythema at the site of the band adjustment port. At the time of consultation, the patient reported nausea, a feeling of early fullness, and heartburn, of six months of evolution; Difficulty tolerating solid foods in the past 30 days; and in the last two weeks, abdominal pain, and vomiting. Cabinet studies show intra-abdominal BGA migration, diagnostic laparoscopy was indicated, using intraoperative X-ray equipment to identify the site of AGB migration, which was found intraluminal in the jejunum 60 cm distal to the Treitz ligament, being removed laparoscopically without complications.

Conclusions:

Infection at the site of the fitting port location in a patient with a history of BGA should lead to suspicion of gastric band erosion. Band migration in the small intestine is a rare complication, but should be considered in any patient with BGA presenting with obstructive symptoms. Removal of the migrated band is feasible and safe to perform laparoscopically.

https://vimeo.com/722361993/0ea621ec5b

V-004

ACHALASIA AND OBESITY: A RARE ASSOCIATION. LAPAROSCOPIC APPROACH HELLER MYOTOMY AND GASTRIC BYPASS

GERD and bariatric surgery

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Division of Bariatric and Metabolic Surgery, Sanatorio Allende Hospital, Córdoba, Argentina.

Background:

A 49-years-old male with obesity (BMI of 44.7 kg / m²) presented to our clinic with complains about 2 years of dysphagia for solids and liquids, regurgitation, and chest pain.

Objectives:

A barium swallow showed dilation of the esophagus with “bird beak” sign. On the EGD a dilation of the esophageal body was observed with a functional stenosis of the esophago-gastric junction. A high-resolution manometry revealed a normal upper esophageal sphincter (EES), incomplete relaxation of the LES with a resting pressure> 10 mmHg that conditions prolonged esophageal emptying and showed absence of peristalsis of the esophageal body, compatible with achalasia. Finally, he was studied by pH-impedance test, which was negative for esophageal reflux disease.

Methods:

Combined laparoscopic Heller’s extramucosal myotomy with Roux-en-Y gastric bypass was performed.

Results:

The surgical time was 176 min. Hospital stay was 48 hours. There were no perioperative complications. After six months of follow-up, the patient remained asymptomatic. His weight loss at that time was 35 kg (current BMI of 33.95 kg / m2).

https://www.youtube.com/watch?v=OYpMxB4iaUo

V-005

ADVANTAGE OF LAPAROSCOPIC SLEEVE GASTRECTOMY COMBINED WITH INTRAOPERATIVE ENDOSCOPY. LESSER CURVATURE SHORTENING AXIS HOLDING METHOD FOR STABLE STAPLING TECHNIQUE

Sleeve gastrectomy

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Background:

Laparoscopic sleeve gastrectomy involves multiple stapling cartridges to dissect the stomach, which may cause stenosis and twisting. It is important to perform stable stapling in order to perform the operation safely. Since the bougie, which is generally used as a staple guide, is flexible, the tip position may not be stable in the lumen and it may be difficult to detect the localization. Therefore, we perform laparoscopic sleeve gastrectomy with an intraoperative endoscope.

Methods:

Laparoscopic operation is performed by the general 5-port method. An oral endoscope is inserted after performing omental incision, dissection around the cardia and posterior of stomach including gastropancreatic fold and of passiveness of the fornix. Using an endoscope with an outer diameter of 9.9 mm, the tip is proceeded to the descending duodenum, and the cardia is straightened from the pylorus by a shortening operation, so that the lesser curvature line can be reliably secured. Furthermore, since the fiber itself serves as an axis and appropriate counter traction is applied in the lesser curvature direction during the stapling and stable stapling is possible. Different from a single-use bougie, using an endoscope has the advantage of saving medical materials and material costs. This method is also preferable as a sustainable surgical procedure.

Results:

This method has been performed on two cases. The average of operative time is 153 minutes including reinforcement staple suturing. The amount of intraoperative blood loss is less 5 ml in all cases. No post-operative complication occurred with this method.

Conclusion:

We show, herein, our intraoperative video of laparoscopic sleeve gastrectomy and present a surgical technique for stable stapling using intraoperative endoscopy with lesser curvature shortening axis holding method.

https://vimeo.com/722365269/5a8b8b92a9

V-006

BARIATRIC SURGERY: 'INDICATION BEYOND WEIGHT LOSS'

GERD and bariatric surgery

S. Shah, S. Kharat, P. Shah.

Bariatric Surgery, Laparo Obeso Centre, Pune, India.

Introduction:

Bariatric Surgery is an accepted modality of treatment for treatment of patients with BMI > 35kg/m2. This video presents an unusual indication for RYGBP.

Methods:

40-year male with BMI 30kg/m2 with type 2 diabetes presented with recurrence of hiatus hernia 4 years after fundoplication with large hiatal defect and complaints of chest pain and vomiting. RYGBP was offered after reduction of hernia and undoing of fundoplication, composite mesh repair of the hiatus and non-functional fundoplication with remnant stomach, interposed between the mesh and the oesophagus.

Results:

All symptoms of GERD resolved and diabetes was in remission at one year.

Conclusion:

RYGBP may be considered as an option of treatment for recurrence of hiatus hernia even in patients with BMI below 35kg/m2.

https://vimeo.com/720843893/de97b8fb5e

V-007

BILE DUCT STONES IN ROUX-EN-Y ANATOMY: WHAT ARE OUR OPTIONS?

Endoscopic and percutaneous interventional procedures

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Duke University Hospital, Durham, United States.

Background:

A greater incidence of cholelithiasis is reported in patients with obesity. As obesity rates increase, bariatric surgeries such as Roux-en-Y gastric bypass increase. It is estimated that around 30% of the patients develop cholelithiasis 12-18 months after bariatric surgery, and rapid weight loss has proven to be an independent risk factor for developing gallstones. Of the patients with cholelithiasis, 10% may have associated choledocholithiasis. There are several management alternatives to treat common bile duct stones in a patient with a previous Roux-en-Y gastric bypass, these include endoscopic, percutaneous and surgical techniques. Among them, conventional ERCP has the lowest success rates.

Objective:

To exhibit the alternatives in the management of common bile duct stones in a patient with Roux-en-Y anatomy.

Methods:

We present three options to treat common bile duct stones after Roux-en-Y gastric bypass. These include: balloon assisted enteroscopy, laparoscopic transgastric ERCP and laparoscopic common bile duct exploration.

Results:

The three different techniques were successful in treating this pathology.

Conclusion:

The indication of a technique to treat common bile duct stones after Roux-en-Y gastric bypass is not standardized. Conventional ERCP is almost futile. Balloon assisted enteroscopy and combined imaging and endoscopic techniques have low availability, require high expertise, and have substantial costs. Laparoscopic transgastric ERCP has high success rates, does not require special equipment, but has been associated with complications. Laparoscopic common bile duct exploration seems a suitable alternative when endoscopic treatments are not available or fail to succeed, especially if the patient hasn't had a cholecystectomy.

The indication to perform a prophylactic cholecystectomy during a bariatric procedure is yet to be defined.

https://www.youtube.com/watch?v=XsOlbrZw3SU

V-008

BYPASS GÁSTRICO Y HERNIA DE MORGAGNI: DIAGNÓSTICO INCIDENTAL

Hernia surgery in the bariatric patient

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Introducción/Background:

La hernia diafragmática de Morgagni, descrita por Giovanni Battista Morgagni en 1761, es un defecto diafragmático congénito localizado en el triángulo esternocostal derecho. Muy poco frecuente, suele ser asintomática y diagnosticarse de forma incidental en el adulto con una radiografía de tórax. Puede cursar con síntomas respiratorios que se confundan con otras patologías. La prueba diagnóstica de elección es el TC. El diagnóstico diferencial debe hacerse con: quiste pericárdico, derrame pleural, atelectasia, neumonía y lipoma mediastínico.

Mujer de 56 años, obesa mórbida, HTA, DM tipo 2, dislipemia, SAOS, IAM previo, gonartrosis, asma y SAOS. En tratamiento con oxígeno domiciliario e inhaladores.

Exploración física: IMC 44 kg/m2.

Pruebas complementarias:

- Ecografía abdominal: esteatosis hepática.
- Ecocardiograma: HVI septal e IM ligera con FEVI conservada.
- Rx tórax: grasa abundante en seno cardiofrénico derecho.
- TC tórax: colapsos subsegmentarios. Lipomatosis mediastínica, pleural y extrapleural.
- Endoscopia digestiva: sin hallazgos.
- Psiquiatría y Psicología, sin contraindicación para cirugía bariátrica.
- Rehabilitación: completadas sesiones de fisioterapia respiratoria preoperatorias.

Intervención quirúrgica:

Neumoperitoneo objetivando hernia diafragmática de morgagni, con epiplón ascendido parcialmente a hemitórax derecho, que se reduce con el neumoperitoneo. Se realiza bypass gástrico y reparación de la hernia de Morgagni. Liberación de orificio herniario de gran tamaño(12x8cm), por lo que se decide hernioplastia diafragmática con malla bicapa de 20x15cm. Se cubre con bolsillo peritoneal y grasa preperitoneal.

El postoperatorio cursó sin incidencias siendo dada de alta el 4º dpo. Al 3º mes la paciente tiene un IMC de 37 kg/m2 y franca mejoría de su sintomatología respiratoria previa.

Conclusion:

- Este caso muestra una hernia de Morgagni incidental en el transcurso de un bypass gástrico.
- Toda hernia de Morgagni diagnosticada de forma incidental debe repararse debido al riesgo de complicación en un futuro.
- Cuando sea posible y no implique un riesgo elevado está indicado resecar el saco herniario, para evitar colecciones y permitir la obliteración de la cavidad herniaria residual.
- Ante orificios diafragmáticos grandes suele ser necesaria la colocación de malla intraperitoneal.
- El hallazgo de lipomatosis mediastínica en una prueba de imagen debe hacernos sospechar una hernia de Morgagni.

https://vimeo.com/722730382/9147e20857

V-009

CANDY CANE, CAUSA DE DOLOR ABDOMINAL RECURRENTE: PRESENTACION DE UN CASO

Post-operative complications

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Introducción:

La cirugía bariátrica (CB) es la alternativa de tratamiento más efectivo para lograr una pérdida de peso significativa y sostenida a largo plazo en pacientes con obesidad, alterando el metabolismo a través de cambios anatómicos gastrointestinales y hormonales. Dentro de las técnicas quirúrgicas más frecuentes están la gastrectomia en maga (GM) y el bypass gastrico en Y de Roux (BGYR). En los últimos años se describen nuevas técnicas quirúrgicas siempre buscando disminuir riesgo-beneficio y bajas complicaciones en el tiempo. Alamo, en 2012, describe una técnica quirúrgica que combina (MG) más un bypass yeyunal. Dentro de estas cirugías con alteraciones anatómicas es frecuente pero no común evidenciar dolor abdominal, siendo su causa principal la formación de hernias internas por brechas mesentéricas.

Metodos:

Caso clínico con consentimiento informado firmado.

Resultados:

Paciente femenina de 34 años con antecedentes de obesidad y comorbilidades que se realiza una cirugía tipo manga gástrica y bypass yeyunal, en el año 2013, con buena evolución postoperatoria. En el 2019 presenta dolor abdominal intermitente realizando estudios complementarios donde se evidencia signos de hernia mesentérica y se decide intervención para cierre de brecha. En controles sucesivos se evidencia persistencia de dolor abdominal que se asocia a periodos postprandial y que persiste por días, por lo que se decide realizar estudios contrastado como RxEED que reporta opacificación de un asa ciega dilatada en hipocondrio izquierdo de 6 cm, opacificación tardía del asa común y retraso del vaciamiento gástrico y TAC de abdomen-pelvis con enteroclisis sin hallazgos patológicos. Se decide laparoscopia exploradora con evidencia de candy cane aumentado de tamaño, 12-15 cm de longitud por 8-10 cm de ancho, con hipertrofia vascular mesentérica, se realiza resección de dicho segmento intestinal, cierre de brecha mesentérica, con sutura V-Loc no absorbible. Paciente con buena evolución postoperatoria, actualmente asintomática.

Conclusion:

La dilatación del candy cane secundario a la distensión por contenido intestinal produce tracción y volvulación del mismo produciendo dolor crónico sin complicaciones de abdomen agudo. El dolor abdominal en pacientes postoperados siempre es un signo de alarma que hay que estudiar exhaustivamente, buscando causas no comunes, sin restringir los estudios imagenológicos ni la conducta quirúrgica.

V-010

CASO CLÍNICO RE-MANGA GÁSTRICA Y REPARACIÓN DE HERNIA HIATAL EN PACIENTE CON REFLUJO GASTROESOFÁGICO SINTOMÁTICO Y GANANCIA DE PESO POSTERIOR A MANGA GÁSTRICA PRIMARIA

GERD and bariatric surgery

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Introducción:

La manga gástrica laparoscópica (SG) se ha establecido como el procedimiento bariátrico más comúnmente utilizado. Se ha descrito una relación importante entre la SG y el reflujo gastroesofágico (ERGE).

Objetivos:

Reportar el resultado y la técnica quirúrgica de la re-manga gástrica (re-SG) para el control del ERGE postoperatorio y reparación de la dilatación del pouch.

Métodos:

Se seleccionó el caso de una mujer con un IMC de 34.8 kg/m2 con antecedente de SG que se presentó a nuestro centro con síntomas graves de ERGE persistentes por más de un año que no respondían a inhibidores de la bomba de protones y ganancia de peso.

Se le realizó endoscopía preoperatoria donde se evidenció una hernia hiatal, con deslizamiento de la transición escamo columnar hacia arriba de los pilares diafragmáticos. Se realizó revisión laparoscópica con cierre de los pilares diafragmáticos, se calibró la SG con una sonda de 40 french y se utilizaron grapas Tri Staple color negro o morado y sutura no absorbible V-lock 2.0 en las áreas del estómago no aptas para grapeo durante la (re-SG) y para el reforzamiento sobre la linea de grapas. Se fijó el epiplón procedente de la cisura angularis desde el ángulo de Hiz hasta el tercio medio del estómago con sutura no absorbible para generar tracción y mantener esófago intraabdominal. Se citó a la paciente para evaluar la presencia de síntomas de ERGE posterior a la re-SG cada mes durantesixmeses.

Resultados:

Se observó mejora de los síntomas de ERGE sin uso de inhibidores de bomba en y un IMC de 29.3 kg/m2 en el postoperatorio asix meses.

Conclusión:

La re-SG es una buena opción terapéutica para aliviar el ERGE después de la SG primaria y es efectiva para corregir la ganancia de peso y mejorar comorbilidades en el seguimiento a mediano plazo.

https://vimeo.com/722368329/d5729d2059

V-011

CHALLENGES OF MINI GASTRIC BYPASS/ ONE ANASTOMOSIS GASTRIC BYPASS IN THE LONG TERM: THE PERFORATED MARGINAL ULCER

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

In recent years the mini gastric bypass/one anastomosis gastric bypass (MGB/OAGB) procedure has become a popular option for patients considering bariatric surgery, with increasing worldwide acceptance and implementation.

Objectives:

Our aim is to investigate one of the long-term complications that arise following the MGB/ OAGB procedure, which is increasingly performed in routine bariatric surgical practice. To this end, we present the case of a perforated gastro-jejunal (GJ) ulcer following MGB/ OAGB.

Methods:

A 31-year-old male who underwent a MGB/ OAGB 2 years ago in Italy presented to a district general hospital in London with a 6-hour history of severe upper abdominal pain, disrupting his sleep. He had no other medical history of note, but was a regular smoker. On examination, he was tachycardic at 114 beats per minute and had generalized upper abdominal peritonism. An abdominal CT confirmed moderate volume free fluid and free gas consistent with a perforation at the gastrojejunostomy site. In light of these findings, the decision was made for the patient to be transferred to a bariatric center. Following optimization with fluid resuscitation and antimicrobial therapy, the patient underwent surgical intervention.

Results:

The video shows the salient intra-operative steps taken to perform the repair of the perforated marginal ulcer and washout. The ulcer is evident on the jejunal side of the gastro-jejunal anastomosis. Standard suture repair with omental patch was performed.

Conclusions:

Marginal ulcers can present after MGB/OAGB with acute perforation and peritonitis. Early surgical management is warranted and preferably in a specialized bariatric centre. The increase in bariatric surgery tourism and lack of standardized follow up in these types of patients may adversely impact on a favorable outcome, resulting in increased complication rates.

https://youtu.be/BEoN0YkW9jo

V-012

CHALLENGES OF OPTIMISING PATIENTS WITH OBESITY PRIOR TO ABDOMINAL WALL RECONSTRUCTION

Hernia surgery in the bariatric patient

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Introduction:

Morbid obesity is a major risk factor for hernia recurrence and patients may be referred to bariatric surgery for weight loss and optimization prior to abdominal wall reconstruction. Laparoscopic sleeve gastrectomy (LSG) is considered the standard surgical treatment for weight loss in these cases. However, it has been shown that LSG is associated with an increased rate of gastro-oesophageal reflux disease.

Objectives:

To demonstrate the technical aspects of performing a LSG and hiatal hernia mesh repair in a bariatric patient with complex abdominal wall hernias.

Methods:

We present the case of a 62-year-old female patient, with a body mass index of 46 kg/m2 and a complex abdominal wall hernia after low anterior resection for complicated diverticulitis. A CT abdomen/pelvis revealed three incisional hernias with the uppermost hernia containing omentum and gastric antrum. An oesophago-gastro-duodenoscopy demonstrated oesophagitis with a 3 cm hiatal hernia. She was referred to bariatric services and the decision was made to proceed with a concomitant LSG and hiatal hernia mesh repair.

Results:

This video shows the intra-operative steps of the LSG including the dissection to free the greater curvature of the stomach to the angle of His and the use of the endostapler with buttress material to create the sleeve. The technique of the hiatal dissection is demonstrated. A posterior and anterior hiatal repair was performed which was successfully reinforced with biosynthetic mesh fixed to the left and right crus.

Conclusion:

Concomitant LSG and hiatal hernia mesh repair is safe and feasible in improving weight loss and reflux disease prior to abdominal wall reconstruction. A multidisciplinary approach for these patients is essential to achieve optimal outcomes.

https://youtu.be/Ew5o9KdWlo4

V-013

CHALLENGES OF THE ROUX-EN-Y GASTRIC BYPASS IN THE LONG TERM: THE PATIENT WITH GASTRO-ESOPHAGEAL REFLUX DISEASE.

GERD and bariatric surgery

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Background:

Roux-en-Y gastric bypass (RYGB) is recognized as the principal treatment procedure of gastro-oesophageal reflux disease (GORD) in morbidly obese patients. Furthermore, with consideration of other weight loss surgery types, RYGB serves as a popular revision method, to negate de novo reflux in such cases.

RYGB has several long-term issues. Post RYGB weight loss and reflux resolution are very much separate entities and it has been observed that patients can re-present post-operatively with symptoms of GORD despite intervention. This especially appears to be the case in the presence of a hiatal hernia as illustrated in this presentation.

Objectives:

To illustrate a case of recurrent GORD after RYGB and the surgical management of this.

Methods:

We present a case of a 66-year-old lady who underwent RYGB for morbid obesity, with an original body mass index (BMI) of 65 kg/m2 and a suture repair of a hiatus hernia at that time. Several years later, despite significant excess weight loss (subsequent BMI 37.5kg/m2), she reported persistent volume reflux, dyspepsia and had been admitted twice with aspiration pneumonia in the interim. Barium swallow and further consults confirmed the presence of a sliding hiatus hernia. A laparoscopic repair of the hiatus hernia with tissue reinforcement with biosynthetic mesh was performed, the salient steps of which are demonstrated in this video.

Results:

Throughout the video the noteworthy intra-operative steps are highlighted systematically as follows. Medial to lateral hiatal dissection occurs followed by the identification of adhesions around the hiatus. The right crus was cleared and a posterior oesophageal lipoma was reduced and excised. Following this the left crus was freed and oesophageal dissection performed through 360 degrees. Hiatal closure followed with non-absorbable sutures posteriorly. Finally, a biosynthetic mesh was secured in place to both the left and right crura and posteriorly, flat against the diaphragm.

Conclusions:

The recurrence of GORD is a recognized complication post RYGB and this case poses the intriguing question: Is this good riddance to reflux or a hindering hiatus?

https://youtu.be/-bG1hXJUOu8

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V-014

CHRONIC SIX-YEAR GASTROCUTANEOUS FISTULA AFTER SLEEVE GASTRECTOMY: SINGLE ANASTOMOSIS STOMACH–ILEAL BYPASS AFTER ENDOSCOPIC TREATMENT WITH DOUBLE SEPTOTOMY AND PIGTAIL DRAINAGE CONCEPT

Endoscopic and percutaneous interventional procedures

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Background:

The Laparoscopic Sleeve Gastrectomy (LSG) is one of the most frequently performed bariatric procedures worldwide. Leakage after LSG occurs in about 0.5 to 5.3%4,5. The resulting intragastric Septum is usually a cause of persisting chronic fistula.

Objectives:

The endoscopic Septotomy technique with double Pigtail drain is a promising new technique to cure chronic intra-abdominal abscesses in the bariatric surgery. Patients with chronic gastrocutaneous fistula could profit of Single Anastomosis Stomach–Ileal Bypass (SASI) Bypass as treatment of the fistula.

Methods:

We present a 31-year-old female underwent laparoscopic sleeve gastrectomy in 2013, post-operatively evolution with a leak, which was unsuccessfully treated endoscopically with Stent twice in 2015 and 2017. Endoscopic OTSC intervention in 2019 also failed and she developed a gastrocutaneous fistula and chronic intra-abdominal abscess. Step endoscopic pigtail drainage and Septotomy were performed to stabilize the patient, and SASI Bypass was chosen to allow the closure of the fistula.

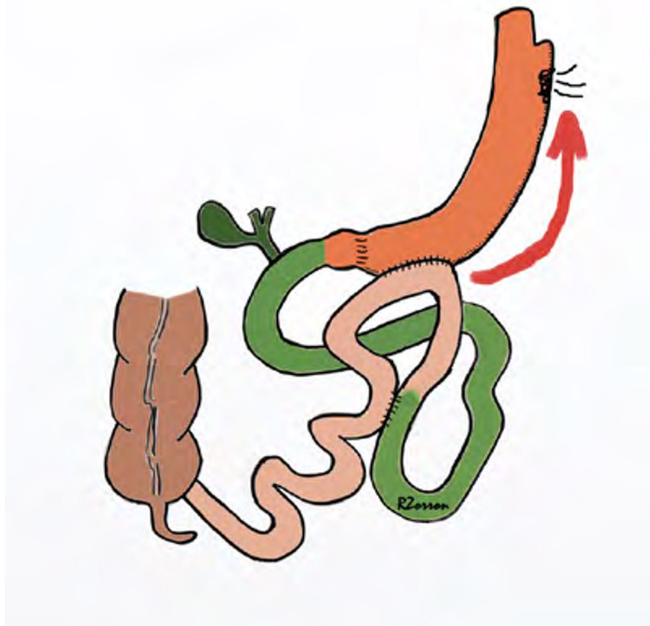
Results:

The interventions were performed in more steps, with intervals of 4-5 weeks. The first included diagnostic investigation with gastroscopy and fluoroscopy, followed with placing two double-pigtail drains (10Fx7 cm long) between the two intra-abdominal abscesses and the stomach. In the further steps after four weeks the diagnostic showed a decline in the abscess volumes, so that a double Septotomy (between Stomach wall and Fistula canal) and placing of two double-pigtail drains was performed. Further interventions with larger Septotomies and drainage were performed, resulting in resolution of the abscess. Fistula closure was achieved by a novel therapy, by diverting the fistula through a laparoscopic SASI Bypass.

Conclusion:

The innovation of this procedure was the use of endoscopic therapy to stabilize the patient by Septotomy combined to pigtail drainage, followed by SASI Bypass to cure a chronic fistula and intra-abdominal abscess without switching to total gastrectomy.

https://youtu.be/0Y1e4YWje2o



V-015

COLECISTECTOMÍA Y CPRE POR ABORDAJE TRANSGÁSTRICO EN PACIENTE POSTOPERADO DE BAGUA

Endoscopic and percutaneous interventional procedures

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Introduccións:

Los pacientes sometidos a cirugía bariátrica son cada vez más frecuentes, siendo el mini bypass gástrico, uno de los procedimientos frecuentemente realizados. La incidencia de colecistolitiasis varía de entre el 22-71%, de estos hasta un 10% pueden presentar un cuadro de coledocolitiasis. En estos casos la cirugía bariátrica presenta un desafío técnico importante para realizar la exploración de la vía biliar. Se ha propuesto a la colangiopancreatografía retrógrada endoscópica (CPRE) por abordaje transgástrico como una opción para valorar la vía biliar, ya que permite en un mismo tiempo quirúrgico realizar la colecistectomía y por medio de un trocar de 15 mm a través del estómago nativo, realizar el paso del endoscopio, realizar esfinterotomía y extraer los litos del colédoco, con la ventaja de ser mejor tolerada por el paciente, favorecer la maniobrabilidad con el endoscopio y evitar abrir la vía biliar.

Objetivos:

Presentamos el caso de un femenino de 38 años, con antecedente de mini bypass gástrico por laparoscopia hace 1 año. Inicia 2 semanas previas al presentar cuadro de cólico biliar, ictericia y Murphy positivo. Se realiza laboratorios presentando una hiperbilirrubinemia con patrón colestásico, se corrobora diagnóstico de colecistocoledocolitiasis con un ultrasonido el cual reporta vesícula biliar distendida, con pared de 4.8 mm. Presencia de litos en su interior y una dilatación del colédoco de 7.1 mm. Se decide realizar una abordaje quirúrgico laparoscópico para realizar colecistectomía y una cpre transoperatoria por abordaje transgástrico con puertos transumbilical 11mm, subxifoideo 11mm, flanco derecho 5mm.Se realiza colecistectomía de manera habitual, posteriormente se liberan adherencias, se expone cara anterior del estómago nativo y se colocan dos suturas puente, se abre gastrostomía y se introduce puerto de 15mm por hipocondrio izquierdo, por el que se pasa duodenoscopio para realizar cpre sin complicaciones, se cierra orificio de gastrostomía y se deja drenaje cerrado. La paciente cursa evolución favorable, egresando al 3 día.

Resultados:

El manejo de los pacientes postoperados de mini bypass gástrico con diagnóstico de coledocolitiasis es un desafío técnico importante. Se propone realiza una CPRE transoperatoria utilizando un abordaje laparoscópico, permitiendo la resolución de la coledocolitiasis de manera segura, reproducible y con una menor tasa de morbilidad mortalidaque la cirugía convencional, sin dejar sonda en T y reduciendo la estancia hospitalaria

https://vimeo.com/722367265/fb17acff15

V-016

COMPUTED TOMOGRAPHY 3D IMAGING AND GASTRIC VOLUMETRY: IN THE PLANNING OF REVISIONAL BARIATRIC SURGERY

Revisional surgery

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Background:

Bariatric revisional surgery rates have been increasing in the last years up to 15% of all bariatric operations in specialized centers; these procedures are often challenging and time consuming. The surgical plan to approach revisional procedures frequently relies on inaccurate information about the actual anatomy, based in conventional radiologic studies and endoscopic findings, sometimes done by third parties or prone to misinterpretation. The availability of an accurate and reliable tool that provides precise information about the pre-existing anatomy, and correlates perfectly with surgical findings in patients that will undergo revisional surgery, can be time saving, allows to delineate a surgical plan and stick to it in most of the cases, reducing uncertainty and the need to “try to find out” the anatomy during the surgery.

We propose the use of Computed Tomography 3D reconstructed images and gastric volumetry, as a valuable resource in the planning of revisional bariatric surgery, describe the technique for obtaining those images distending the stomach and bowel with an effervescent preparation, and show its usefulness in several example cases.

https://youtu.be/sONudcVvabk

V-017

CONVERSION FROM SINGLE PORT SLEEVE GASTRECTOMY TO ASSISTED SINGLE PORT GASTRIC BYPASS

Revisional surgery

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Introduction:

Conversion after sleeve gastrectomy usually occurs within distinct early or late time frames. Later re-operations address mechanical or functional abnormalities. Indications for later revisions are for stenosis, stricture, a helical twist of the gastric pouch, or refractory gastroesophageal reflux disease, secondary weight loss failure, weight recidivism, or planned second-stage procedures.

Many of the bariatric procedures are being performed laparoscopically, providing better cosmesis and a weight loss rate of more than 50% in long-term studies. Better cosmesis, potential less post-operative pain and shorter hospital stay are potential advantages of SILS over conventional laparoscopic bariatric surgery.

Objectives:

Present the case of a conversion from single port sleeve gastrectomy to gastric bypass through assisted single port technique.

Methods:

Female, 38 years old, hypothyroidism under treatment and history of single port sleeve gastrectomy four years ago with an initial body mass index of 31.9 and actual of 27.8, comes to our center complaining of constant postprandial dyspepsia and regurgitation. We started proton pump inhibitors for 2 months with no clinical improvement, so we offered the option of assisted single port gastric bypass.

Results:

We did the approach through the previous umbilical incision of 2 cm and reached to the fascia, inserted the single port mechanism with 3 trocars, performed insufflation, and set a 5 mm trocar in the left flank. Adhesions from previous procedure were liberated with bipolar energy. Retrogastric window was performed and the gastric pouch was performed with a surgical stapler. Counted 50 cm from the Treitz ligament and a section was done with surgical stapler. Counted 70 cm and did the intestinal anastomosis with a surgical stapler, and closed the enterotomies with 2-0 absorbable suture in 2 layers. We proceeded to realize a manual gastrojejunal anastomosis with 2-0 nonabsorbable sutures in 2 layers. Procedure was completed successfully. Patient was discharged on the third post-operative day.

Conclusion:

The gold standard treatment for refractory acid reflux in a patient with gastric sleeve is the conversion to gastric bypass. When the prior procedure is performed via single port, a conversion with assisted gastric bypass could be considered if the surgeon has the learning curve for single port bariatric procedures.

https://vimeo.com/722388905/077049747d

V-018

CONVERSION FROM SLEEVE GASTRECTOMY TO SINGLE DUODENAL-ILEAL ANASTOMOSIS BYPASS WITH SLEEVE GASTRECTOMY: HOW TO PREVENT MALNUTRITION CONSEQUENCES?

SADIs

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Background:

The Single Duodenal-Ileal Anastomosis bypass with Sleeve gastrectomy (SADI-S) was born as a malabsorptive surgery, the increase in the common channel makes it a multipotential surgery, applicable to all types of patients, with behavior similar to a metabolic gastric bypass. Current indications for conversion to SADI-S following sleeve gastrectomy (SG) include insufficient weight loss or progressive weight regain. One of the most feared complications after SADI-S, particularly in Latin America, is the malnutrition caused by malabsorption. We want to show our technique to take the length of the common channel to avoid those complications.

Methods:

A 38-year-old male, who visited our clinic with a surgical history of SG 10 years ago. His body mass index (BMI) previous to the SG was 40 Kg/mt2. During the first five years he was losing weight properly reaching a BMI of25.3 kg/mt2. After this period, he started to regain weight. The patient went under our multidisciplinary bariatric team workout during a six months period without satisfactory results. Final BMI was 35.2 Kg/mt2, his endoscopy shows a reduced stomach, without hiatal hernia or esophagitis. We decided to convert from SG to SADI-S preserving the size of the gastric sleeve, he had an uneventful post-operative recovery. After a year of follow-up, no malabsorptive complication is reported.

Conclusions:

Laparoscopic conversion from SG to SADI-S if feasible and safe procedure, if the surgeon take special care during the measure of the small bowel the malnutritional complications could dramatically reduce.

https://vimeo.com/601198856/081a5a8f48

V-019

CONVERSION OF ONE ANASTOMOSIS GASTRIC BYPASS INTO LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS FOR ANASTOMOTIC STENOSIS: A STEPWISE DESCRIPTION

Revisional surgery

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Introduction:

Long standing marginal ulcer after one anastomosis gastric bypass (OAGB) might lead to anastomotic stenosis requiring revisional surgery.

Objectives:

This video demonstrates the laparoscopic management of an anastomotic stenosis after OAGB.

Methods:

Video case report.

Results:

This 56-year-old woman had a history of gastric banding, band removal for slippage, followed by one anastomosis gastric bypass in 2013. Weight loss results were excellent with a 108% excess weight loss two years after surgery, stable in time. Functional results were altered by constant dysphagia and vomiting, and intolerance to solid food. In 2020, marginal ulcer and anastomotic stenosis were diagnosed, and the patient had two pneumatic dilations and was placed on PPI therapy. Complete dysphagia with incoercible vomiting occurred in early 2021. CT-scan and endoscopy findings are shown. A pneumatic dilation of the anastomosis was performed as a first step, with feeding tube placement and enteral nutrition support during three weeks. The surgical treatment was then decided upon, with resection of the stenotic gastrojejunal anastomosis, followed by conversion to a Roux-en-Y gastric bypass. This video demonstrates the following operative steps: laparoscopic exploration, efferent limb measurement, biliary limb measurement, anastomosis resection, gastric pouch resizing, biliary limb shortening, gastrojejunal and jejunojejunal anastomosis, as well as closure of mesenteric defects. Post-operative outcomes were uneventful. The patient was discharged on post-operative day two. A fractionated diet was well-tolerated, and no dysphagia or vomiting was observed. She lost 2Kg in the first two weeks after surgery and her weight became stable.

Conclusion:

Stenosis of the gastrojejunal anastomosis after OAGB can be safely addressed by anastomosis resection and conversion Roux-en-Y gastric bypass.

https://vimeo.com/724507993/8fa189f24b

V-020

CONVERSION OF VERTICAL BANDED GASTROPLASTY (VBG) TO GASTRIC BYPASS FOR SEVERE GERD. TECHNICAL ASPECTS

GERD and bariatric surgery

R. Vilallonga[1], A. Garcia[1], P. Lopez[2], E. Caubet[1], R. Blanco[2], O. Gonzales[1].

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Background:

The vertical banded gastroplasty (VBG) was described in the 1980s, its technical ease and the relatively low rate of short-term complications made it the procedure of choice at the time. However, it has been progressively abandoned, due to high failure rates, long-term complications, and the need for revisional surgery.

Methods:

The objective of this video is to present the case of a 69-year-old patient, with a history of VBG 20 years ago. Symptoms of long-term reflux and intolerance to solid foods. The upper digestive radiological series showed a decrease in caliber between the fundus and the gastric body in relation to the VBG ring. Conversion to laparoscopic Roux-en-Y gastric bypass (LRYGB) was performed, with a 100 cm long biliopancreatic loop, 150 cm digestive loop and 230 cm common loop.

Results:

The evolution in the immediate post-operative period was favorable, with hospital discharge 72 hours after surgery and clinically correct evolution in the outpatient controls.

Conclusion:

The conversion from VBG to LRYGB is a technically demanding, safe and feasible procedure, with good results both in weight loss and in the correction of complications associated with other techniques.

https://vimeo.com/722403826/542dbdbb0f

V-021

CONVERSION TO NISSEN-SLEEVE FOR THERAPY-RESISTANT REFLUX AFTER ROUX-EN-Y GASTRIC BYPASS REVERSAL

GERD and bariatric surgery

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Clinical Presentation:

A 48-year-old female patient was referred to our bariatric unit because of refractory gastro-esophageal reflux disease. Relevant medical history consists of arterial hypertension and our patient is an active smoker.

In 2017 the patient had a Roux-en-Y gastric bypass for a BMI of 48.6 kg/m2. The patient had successful weight loss from 122 kg to 68 kg (BMI 26,9 kg/m²). In 2020, three years later, the patient insisted on reversing the gastric bypass to normal anatomy due to invalidating psychological issues with low oral intake.

Since the reversal of the bypass the patient developed strong therapy-resistant reflux. Furthermore, the patient has weight regain to 117 kg (BMI 46.5 kg/m2), aggravating her reflux complaints. Patient takes PPI's 40 mg twice daily without any.

Preoperative Tests:

Blood tests showed only hypercholesterolemia of 225 mg/dl. Upper GI endoscopy showed reflux esophagitis grade B and a sliding hernia. Upper GI series showed a small sliding hernia of 2.5 cm with contrast reflux.

Operative Procedure:

We performed a laparoscopic Nissen-Sleeve and cruroplasty, status after undo Roux-en-Y gastric bypass. Uncomplicated perioperative course.

Posto-perative Outcome:

There were no post-operative complications. Discharge was on post-operative day 1. At 6 weeks post-operatively the heartburn symptoms completely resolved. At 3 months post-operative, the patient lost 15.5 kg and is asymptomatic.

https://youtu.be/qI21uZrGgvE

V-022

DAMAGE CONTROL LAPAROSCOPY AFTER GI BLEEDING AND LEAKE WITH SUBDIAPHRAGM ABSCESS IN SLEEVE GASTRECTOMY

Post-operative complications

N. Apaez Araujo[1], N. Albores de la Riva[2], M. Arceo Tovar[3], D. Martinez Castañeda[4].

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Background:

42-year-old-man

BMI 35.08 Kg/M2

Arterial Hypertension, Diabetes Mellitus Type 2, Cardiac Arrhythmia,

Two months after a sleeve gastrectomy, with a "Favorable Evolution" he presented to the emergency department, with signs and symptoms of upper bleeding gastrointestinal tract, hypovolemic shock and abdominal mass on left flank. Two days after he arrived, he went to a revisional surgery.

Vital Signs: Blood Pressure 70/45 Mmhg, Heart Rate 134, Respiratory Rate 29, Sp02: 85%.

Laboratory: Wbc 9.64 X103Mm3, Hb 9.02 G/Dl, Hto 24 %, Plaq 213,000, Glucose 96 Mg/Dl , Tgo 55 Ui/L, Tgp 48 Ui/L , Ggt 67 Ui/L, Alb 1.4 G/Dl Creat 0.9

Computed Tomography Findings: Left subdiaphragmatic abscess with the presence of gas

Surgery Findings: One liter of left subdiaphragmatic abscess, abdominal sepsis, necrotizing soft tissue fasciitis, 1.5 Lts of blood clot, sleeve gastrectomy dehiscence of 85%

He required management in ICU with antibiotics (Metronidazol + Meropenem), parenteral nutrition for 10 days. He was discharged from ICU at day 10. Then he received enteral nutrition by gastrectomy. He finished the antibiotic treatment after we performed gastric sleeve conversion surgery to gastric bypass Roux -en-Y for persisting with fistula of the gastric sleeve. He discharged from the hospital at day 35 without complications.

https://youtu.be/aQf2lSL1EPM

V-023

ENDOSCOPIC AND LAPAROSCOPIC TREATMENT FOR GASTRIC BAND COMPLICATION

Adjustable gastric banding

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Background:

Laparoscopic adjustable gastric banding was a popular bariatric procedure in the past. But nowadays, this procedure is less commonly used due to a lot of evidence from many studies indicating that the result of losing excess weight after this surgery is not very good and caused long term weight regain. The recent standard bariatric surgery such as laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass are now currently used.

Objectives:

This VDO presents two cases of long-term post-laparoscopic adjustable gastric banding surgery who presented with gastric band malposition complication and weight regain.

Methods:

The VDO show technique and options of gastric band removal and correct weight regain problem by the standard bariatric surgery.

Results:

All of the two cases were solved from their complications and underwent the standard bariatric surgery.

Conclusion:

Both endoscopic and laparoscopic approaches for gastric band removal can be safely performed and are the treatment of choice for gastric band complication.

https://vimeo.com/720878965/e53517da9d

V-024

ENDOSCOPIC REVISION OF A GASTRIC BYPASS AS A BRIDGE THERAPY FOR A COMPLEX ABDOMINAL WALL HERNIA REPAIR

Management of weight regain after surgery

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Background:

Endoscopic revision techniques of a Roux-en Y gastric bypass (RYGB) have been increasingly performed for the treatment of insufficient weight loss or weight regain after the bariatric surgery, with varying weight loss outcomes and durability of the revision. A 35-year-old female with morbid obesity presented to our institution with a weight of 165kg 1.5 years after RYGB that was initially performed as a bridge therapy for the surgical repair of a large abdominal wall hernia. Given the insufficient post-surgical weight loss, hernia repair was deferred. In order to achieve a durable and significant weight loss, we proceeded with a combined mucosectomy through endoscopic submucosal dissection and suturing of the gastrojejunal anastomosis (GJA), and the reduction of the gastric pouch using a tubular gastroplasty approach.

Objective:

Assess the weight loss outcome and durability of adjunct endoscopic revision techniques of a RYGB as a bridge therapy for a non-bariatric surgery.

Methods:

Mucosectomy was performed around the GJA after the submucosal injection of a saline solution containing epinephrine and methylene blue. Argon plasma coagulation (APC) was then performed at the edges of the mucosectomy to enhance the healing response and the durability of the plication. Using a single running suture, eight stitches were placed around the GJA in a zipper-like fashion. Another single running U-shaped suture was placed at the level of the pouch to create a tubular outlet and was then reinforced with a third triangular suture.

Results:

At 3 months follow-up, the patient achieved a weight of 128 Kg, representing a weight loss of 37 Kg and a percent total body weight loss of 22.4. During that time, she reported intermittent nausea and vomiting necessitating a follow-up endoscopy that showed a well-healed restricted tubular outlet of the pouch with fully intact repair, and a stoma size measuring around 5 mm. To alleviate the patient's intermittent symptoms, balloon dilation to 10 mm was performed, with a resolution of symptoms after the procedure.

Conclusion:

Adjunct endoscopic tools and techniques could be used to enhance the restriction and the durability of the endoscopic revision of the gastric pouch and outlet. These tools are not necessary for most of the patients but might be needed to optimize the outcome in select patients in need of significant weight loss as a bridge to non-bariatric surgery.

https://vimeo.com/722405063/19c009cde8

V-025

ENDOSCOPIC SLEEVE GASTROPLASTY WITH RUBBER BANDS PLACEMENT ALONG GREATER CURVATURE OF THE STOMACH FOR HIGHER FIBROSE FORMATION RATES AND ENDOSUTURE STABILIZATION – A VIDEO CASE REPORT

Endoscopic and percutaneous interventional procedures

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Endovitta Institute, São Paulo, Brazil.

Introduction:

Endoscopic Sleeve gastroplasty (ESG) is an endoluminal, minimally invasive, safe and effective bariatric procedure that involves remodeling of the greater curvature, using the Apollo OverStitch device (Apollo Endosurgery, Austin, TX) endo-sutures, in an effort to reduce gastric capacity and delay gastric emptying (1). It is a reversible procedure since suture´s dehiscence has been reported (2). With loss of tension, there is a decrease in the restrictive effect and weight regain is more feasible (3). In order to avoid this process and to maintain suture´s stability for a longer period of time, the authors propose a novel technique that incorporates greater curvature´s mucosa Rubber Band Ligation (RBL) before ESG execution. This simple procedure, aims to create mucosal ulcers and a subsequent healing process with fibrotic scar formation, helping to maintain endo-sutures in place for a longer period of time.

Objective:

To describe technical aspects of ESG execution with greater curvature´s mucosa RBL.

Methods:

46-year-old woman, initial Body Mass Index (BMI) of 32 Kg/m2 and right knee arthrosis underwent ESG. A different technique was performed, using six rubber band ligations along the great curvature´s mucosa, with Superview Superseven Speedband Device (Boston Scientific). After each pair of ligations, it was performed a ¨U¨ shape endo-suture using Apollo Endosurgery Device, totalizing six ligations (Two rubber bands, located at three different points along the gastric great curvature) and four endo sutures, initializing at Incisura Angularis and extending proximally to the upper gastric body. After, tubular shape of the stomach was confirmed. Procedure time was 55 minutes and there were no immediate complications or technical difficulties. After oral feeding acceptance was confirmed, the patient was discharged.

Results:

The patient continued the outpatient follow-up with a multidisciplinary team. After 30 days of follow-up, she had eliminated 6Kg, and had a BMI of 29.41 kg / m2, corresponding to a loss of 6.5% of total body weight (% TWL). No symptoms of pain, bleeding or vomits were referred.

Conclusion:

ESG after RBL of the greater curvature´s mucosa seems to be a promissory technique in an effort to improve fibrosis formation along greater curvature and decrease the possibility of suture dehiscence, maintaining restrictive capacity for a longer period of time.

https://vimeo.com/722405744/b6c38cf88a

V-026

ESTENOSIS GÁSTRICA SECUNDARIA A GASTROPLASTIA VERTICAL ANILLADA

Revisional surgery

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Introduccións:

La gastroplastia vertical anillada (GVA) fue muy utilizada en los años 80-90, pero en la actualidad está en desuso dadas sus complicaciones a medio y largo plazo. La estenosis es relativamente frecuente (20-30%) y suele ser secundaria a una reacción fibrótica de la banda.

Objetivos:

Presentar el video de una paciente caquéctica como consecuencia de una estenosis gástrica años después de una GVA.

Metodos:

Mujer de 49 años, fumadora, intervenida 15 años antes

por obesidad (IMC 52 kg/m2) donde le realizaron una GVA abierta. También presenta antecedentes de eventroplastia de la laparotomía media y abdominoplastia. En tratamiento con esomeprazol por síntomas de reflujo gastroesofágico (RGE).

Consulta por disfagia progresiva a sólidos, vómitos diarios y pérdida de peso en los últimos 4 meses.

A la exploracion presenta anorexia, pesa 46kg (IMC 17 kg/m2), con cicatriz de laparotomía media y biiliaca por abdominoplastia.

Se realizan endoscopia digestiva, con esofagitis grado B y estenosis a nivel de la banda; y tránsito esofagogástrico, con dilatación gástrica y esofágica por estenosis de la banda.

Intervención quirúrgica: se realiza laparoscopia objetivando numerosas adherencias del epiplón y el estómago al peritoneo y lóbulo hepático izquierdo. Se procede a realizar adhesiolisis, hasta intuir la banda gástrica que se libera con cuidado del estómago y se retira.

A continuación se hace una endoscopia, con dificultad para pasar la zona estenótica donde estaba la banda. Lo mismo ocurre al tutorizarlo con una sonda de 36Fr. Se decide hacer una gastro gastrostomía para asegurar un correcto paso del alimento, dada la desnutrición previa de la enferma y su RGE. Se comprueba la estanqueidad de la anastomosis con azul de metileno y se deja un drenaje por la disección laboriosa.

Resultados:

Dada de alta el 3º día postoperatorio con suplementación oral hiperproteica e hipercalórica. Al 6º mes está asintomática, con buena tolerancia oral, sin vómitos ni síntomas de RGE. Pesa 68 kg, con un IMC 25,5 kg/m2

Conclusion:

En la cirugía revisional es fundamental hacer endoscopia y tránsito previo. Cuando nos enfrentamos a una estenosis fibrótica secundaria a la banda de una GVA tenemos dos opciones: quirúrgica o endoscópica.

En este caso se presenta la segunda opción. Habría distintas técnicas quirúrgicas de conversión. Aunque lo habitual es convertir a bypass gástrico, en caso de caquexia una buena buena solución puede ser una gastro gastrostomía.

https://vimeo.com/722763394/a7521400ce

V-027

FIRST EXPERIENCE OF SLEEVE GASTRECTOMY WITH DUODENOJEJUNAL BYPASS

Sleeve plus

Y. Chung, Y. Kim.

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Clinical Presentation and Indication for Surgery:

A 40-year-old female presented with uncontrolled Type 2 diabetes with hypertension, dyslipidemia, and stage 2 to 3 chronic kidney disease. She was receiving insulin shots but her HbA1c was 8.5% at her first visit. Her body mass index was 30.5 kg/m2. She was a current smoker. She was scheduled for sleeve gastrectomy with DJB.

Preoperative X-ray Images/Endoscopy/Blood Results:

Her initial Hb A1c was 8.5% and her insulin level was 17.4 uU/mL and her C-peptide velve was 3.56 ng/mL. Her initial BUN and creatinine levels were 37.8 mg/dL and 1.52 mg/dL. Her estimated glomerular filtration rate was 42.4 ml/min/1.73m2. Her endoscopic findings were superficial gastritis and duodenitis.

Operative Procedure:

Sleeve gastrectomy with DJB.

Post-operative Outcome:

The patient was discharged without any complications. She has discontinued insulin injections but is taking linagliptin 5 mg for glucose control.

https://vimeo.com/720878226/92082117a6

V-028

FISTULA GASTRO-GASTRIC AFTER ROUX-EN-Y GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Surgery, Hospital Ángeles Tijuana, Tijuana, Mexico.

Introduction:

The Roux-en-Y Gastric Bypass is one of the most common bariatric surgeries in the world, with adequate long-term weight loss. The gastro-gastric fistula, communication between gastric pouch and the remnant stomach, is a rare complication in up to 6% after a RYGB.

Objective:

Describe the clinical symptoms in a patient with gastro-gastric fistula and the surgical management by laparoscopic approach, after a RYGB.

Methods:

We present a case report of a 49 years old male patient with a RYGB five years before.

Background of High blood pressure, dyslipidemia, alcoholism and smoking.

A clinical presentation of weight regain of 55kg without satiety, GERD like symptoms and postprandial epigastric pain after 2 years of the RYGB. At the first evaluation, he has a BMI of 43kg/m2. The upper endoscopy report describes a Hiatal Hernia type 1 with no esophagitis and a stomach modified by an antrectomy with an Braun omega anastomosis. After the analysis of the case and consultations with the multidisciplinary team, psychology and nutrition, the decision was made to perform a laparoscopic revision surgery of the RYGB. With the patient in the French position, a 15mmhg pneumoperitoneum is performed, we place 6 trocars. Laparoscopy of the abdominal cavity, adhesiolysis is performed, the next step is the dissection of the esophageal hiatus, release adhesions and attachments of the gastric remnant which reveals a large gastro-gastric fistula about 6cm. Section of the fistula and gastrectomy of the remnant is performed with 4.8mm stapling.

Results:

The post-operative period of the patient course without complications, and follow-up after one year had a 30% loss of excess weight, no longer presents GERD like symptoms or postprandial abdominal pain, and has an improvement of his high blood pressure.

Conclusion:

The gastro-gastric fistula is rare complication after RYGB that can be challenging to diagnosis and treatment. Surgical treatment should be tailored to the presenting symptoms and associated anatomic abnormality, laparoscopic correction can be performed with no additional harm of the patient in experienced hands.

https://vimeo.com/722407463/16fd6d4ef7

V-029

FIVE BARIATRIC PROCEDURES AND STILL NOT OK

Revisional surgery

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[1]Resident, AZ Sint Jan Hospital, Brugge, Belgium; [2]General Surgery, AZ Sint Jan, Brugge, Belgium.

Clinical Presentation:

A 51-years-old female patient referred to our bariatric unit for a second opinion due to epigastric pain during eating and dysphagia. This patient already had five bariatric procedures in the past. In 2009 she had a sleeve gastrectomy for a BMI of 60.6 kg/m2. Four years later in 2013 a re-sleeve gastrectomy was performed due to weight regain. One year later a conversion surgery to RNY gastric bypass was performed. In 2015 revisional surgery was again performed, they did a gastrojejunal sleeve resection. Post-operatively the patient complained of dysphagia and vomiting. These symptoms persisted for years. In 2019, an additional correction of the gastric pouch was done as well as a coeliac bloc. And finally, in 2020 patient had a laparoscopic exploration with adhesiolysis.

After all these procedures the patient still had dysphagia and epigastric pain. At time of presentation at our bariatric unit the patient had a BMI of 42.2 kg m2. Patient takes PPI's 40 mg twice daily and antihypertensive medication.

Preoperative X-ray Images/Endoscopy/Blood Results:

Blood tests showed iron deficiency and hypovitaminosis D. Upper GI series showed an intrathoracic pouch herniation, a supra phrenic diverticula, and a narrow pouch. Upper GI endoscopy showed an intrathoracic hiatal hernia and a narrow tubular gastric pouch.

Operative Procedure:

We performed a laparoscopic exploration with a reduction of the intrathoracic hernia of the gastric pouch, a cruroplasty, and a seromyotomy of the gastric pouch. Uncomplicated perioperative course.

Post-operative Outcome:

There were no post-operative complications. On POD-2 the control upper GI series showed smooth passage of contrast and no leak. The patient was dismissed on POD-3. At 6 weeks post-operatively the epigastric pain had disappeared completely. Patient has rarely dysphagia complaints, sometimes passage problems with solid food. Weight was unchanged.

https://youtu.be/VK3m0tI8VG4

V-030

FROM BAND TO BYPASS, THE RISK OF POORLY SURGICAL CHOICES IN A LIMITED RESOURCE-PATIENT

Adjustable gastric banding

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Background:

Obesity and its related diseases are a worldwide pandemic; it's estimated that about 34% of adults are obese. (1, 2) It negatively affects most bodily systems and directly links to type 2 diabetes, hypertension, coronary artery disease, etc. (3) Bariatric surgery is the best mechanism to reduce weight and improve the morbidity associated with obesity (4) While the benefits of weight loss among individuals with obesity, are unquestioned, these benefits must be considered in the context of surgical complications, especially in procedures that are now marred by recent long-term studies showing high complication rates, and in patients where resources are scarce. (5,6)

Objectives:

We have to take extreme measures to improve our knowledge of every surgical alternative, especially in bariatric patients in which the initial treatment may be the only option they have.

Methods:

We are describing the case of a 34-year-old female patient with a past medical history of obesity. She had a BMI (body mass index) of 37 and sought medical attention. Although bariatric surgery would have been an excellent opportunity for her, a laparoscopic adjustable gastric band was placed at that time. Regretfully, she never lost the weight that she needed and was not informed about this procedure's risks and effects. Complications such as heartburn, reflux, and difficulty in eating solid food started to appear. Revisional surgery was decided, and conversion to a laparoscopic gastric bypass was completed without complications.

Results:

GB (Gastric Band) is now associated with a high reoperation rate (7, 8). Its use has declined over the last decade in favor of other more acceptable procedures. (9) Our patient may not have been the best candidate for GB; more guidance and follow-up should have been a priority.

Conclusions:

As more revisional surgeries are expected to occur due to the growing number of obese population, the number of complications arising from these procedures will be much higher. (10) We have to take extreme measures to improve our knowledge of every surgical alternative, especially in bariatric patients in which the initial treatment may be the only option they have. (11, 12) They must be treated in specialized centers that are prepared to treat these complications when they arise and provide the best treatment to help each patient recover their health.

https://vimeo.com/722766890/2ff31ed0b1

V-031

FULL ROBOTIC REVISIONAL SURGERY: HIATOPLASTY AND VERTICAL GASTRECTOMY CONVERSION TO SADI-S DUE TO WEIGHT REGAIN

Revisional surgery

R. Vilallonga, A. Garcia, P. Lopez, S. Sanchez-Cordero, R. Mata, R. Blanco.

Department of General and Digestive Surgery, Vall d'Hebron University Hospital, Barcelona, Spain.

Background:

Robotic surgery is an emerging and promising technology in BS (bariatric surgery). Current studies have confirmed its feasibility and safety with a relatively short learning curve. Single-anastomosis duodenoileal shunt with vertical gastrectomy (SADI-s) is a well-known but technically challenging technique for extreme obesity in this group of patients and it is therefore frequently performed as a staged laparoscopic procedure. Revisional surgery due to weight regain is a more technically demanding surgery that has been on the rise in recent years. The video shows a revisional surgery due to weight regain and hiatal hernia in a patient with VG and conversion to full robotic SADI-S (TR-SADI-S) in a patient with weight regain and hiatal hernia.

Clinical Case:

A 60-year-old male patient with a baseline weight of 151 kg in 2014 and a BMI 45 kg / m2 underwent vertical gastrectomy (VG). Presents progressive regain up to current weight 123 kg and BMI 37 kg / m2. In the preoperative study, a hiatal hernia was discovered. Revisional surgery is proposed for hiatoplasty, vertical gastrectomy conversion to full robotic SADI-s using a Da Vinci Xi® model.

The patient was in a Trendelenburg position and on the left side. All trocars were robotic. A hiatal hernia was identified containing a remnant of the gastric fundus not dissected in the primary surgery. Content reduction and resizing of the gastrectomy and abutment closure are performed. Finally, a 270 cm ileal loop was measured to make a manual robotic duodenoileal anastomosis in four layers with absorbable sutures. There were no complications during or after surgery and the patient was discharged on the third post-operative day.

Conclusion:

Full robotic surgery can be safely performed through systematic stepwise progression with minimal complications and comparable surgical times. Robotic surgery appears to offer more advantages for complex cases, such as super obesity and revisional surgery. More experience is needed to understand the long-term advantages and disadvantages of the full robotic approach.

https://vimeo.com/722409799/b86ff800c2

V-032

FULL ROBOTIC SECOND STEP SINGLE ANASTOMOSIS DUODENO-ILEAL BYPASS (SADI-S), ON A CASE REPORT

SADIs

P. Lopez, R. Vilallonga, S. Sanchez-Cordero, E. Caubet, A. Garcia, O. Gonzales.

Department of General and Digestive Surgery, Vall d'Hebron University Hospital, Barcelona, Spain.

Background:

Robotic surgery is an emerging and promising technology in BS (bariatric surgery). Current studies have confirmed its feasibility and safety with a relatively short learning curve. Single-anastomosis duodenal ileal bypass with vertical gastrectomy (SADI-s) is a well-known but technically challenging technique for extreme obesity in this group of patients and it is therefore frequently performed as a staged laparoscopic procedure. This video shows a second step of a full robotic SADI-S (SADI-S) in a patient with extreme morbid obesity.

Clinical Case:

A 46-year-old male patient with an initial weight of 151 kg and BMI of 47.78 kg / m2 was admitted for a SADI-S in two stages. The vertical gastrectomy was performed in 2017. Before the second step, the patient had 102 kg and BMI 32 kg / m2. A Da Vinci Xi® model was used and no laparoscopic assistance nor repositioning of the surgical table was required.

The patient was set in a Trendelenburg and left sided position. All trocars were robotic. A 300 cm ileal loop was measured and temporarily attached to the right hypochondrium peritoneum. A manual robotic duodenoileal anastomosis was performed in four layers with absorbable sutures. Hiatal hernia was not identified. There were no complications during or after surgery and the patient was discharged on the third post-operative day.

Conclusion:

Full robotic surgery can be safely performed through systematic stepwise progression with minimal complications and comparable surgical times. Robotic surgery appears to offer more advantages for complex cases, such as super obesity and revisional surgery. More experience is needed to understand the long-term advantages and disadvantages of the full robotic approach.

https://vimeo.com/722410780/e1be802cb6

V-033

FUNCTIONAL LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS WITH FUNDECTOMY AND GASTRIC REMNANT EXPLORATION (LRYGBFSE)

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

The laparoscopic Roux en-Y gastric bypass (LRYGB) is performed worldwide and is considered by many the gold standard treatment for morbid obesity. However, the difficult access to the gastric remnant and duodenum represents intrinsic limitations. The functional laparoscopic gastric bypass with fundectomy and gastric remnant exploration (LRYGBfse) is a new technique described in attempt to overcome the limitations of the LRYGB. The purpose of this video was to demonstrate the LRYGBfse in a 48-year-old man with type II diabetes and hypertension.

Methods:

An intraoperative video has been anonymized and edited to demonstrate the feasibility of LRYGBfse.

Results:

The operation started with the opening of the gastrocolic ligament. Staying close to the gastric wall, the stomach is prepared up to the angle of His. After the placement of a 36-Fr orogastric probe, gastric fundectomy is completed in order to create a 30 cc gastric pouch. A polytetrafluoroethylene banding (ePTFE) is placed at the gastro-gastric communication, 7cm below the cardia, and gently closed after bougie retraction. The bypass is completed by the creation of an antecolic Roux-en-Y 150cm alimentary and 150 cm biliopancreatic limb.

Conclusion:

The LRYGBfse is a feasible and safe technique. The possibility to endoscopically explore the excluded stomach with an easy access to the Vater's papilla is a major advantage. Further studies are warranted to deeply explore and compare outcomes with the standard LRYGB.

https://youtu.be/r5HrSO_mkVk

V-034

GASTRECTOMIA EN MANGA BANDEADA EN PACIENTE SUPEROBESOS. PRESENTACIÓN DE UN CASO

Procedimientos con bandas

C. Guixe.

Director, IFSO Chile, Santiago, Chile.

Clinical Presentation and Indication for Surgery:

Se expone el caso de una paciente 51 anos imc 60 con antecedentes de laparotomia infraumbilical previa en la cual se realiza gastrectomia en manga mas instalación de anillo de silicona ajustable.

https://vimeo.com/720838197/2ce476a081

V-035

GASTRIC BAND SLIPPAGE WITH ASSOCIATED GASTRIC NECROSIS: A VIDEO PRESENTATION

Adjustable gastric banding

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Clinical Presentation and Indication for Surgery:

Band slippage (BS) is an uncommon complication following laparoscopic assisted gastric banding (LAGB). BS is a surgical emergency and requires urgent removal of the band. A case report of a 29-year-old female who presented with a BS with a concomitant gastric necrosis proximal to the band location is demonstrated here.

Operative Procedure:

The patient underwent surgical removal of the band, and a proximal gastrectomy with a Roux-en-Y esophago-jejunostomy.

https://vimeo.com/720813894/57e9ac9ac9

V-036

GASTRIC BAND TO LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS CONVERSION DUE TO GERD AND WEIGHT LOSS FAILURE: ONE-STEP REVISIONAL SURGERY

Revisional surgery

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Background:

Laparoscopic adjustable gastric banding (LAGB) has been one of the most common procedures in bariatric surgery in the past. It is reported to have a high surgical revision rate due to long-term complications. The optimal conversion technique is unknown. One-step conversion has been recently demonstrated to be safe and feasible.

Objectives:

With this video we aimed to report a case of one-step revisional surgery and conversion to Roux-en-Y Gastric Bypass (RYGB) due to gastric band failure and show the technical endpoints.

Methods:

A 55-year-old woman with increased BMI over last year up to 45,5 is assessed in our centre. A gastric band was placed in 2008 without success on weight control. The patient associated metabolic comorbidities and presents GERD symptoms. Endoscopy do not show complications related to band. Conversion to RYGB is planned.

Results:

Laparoscopic revisional surgery is decided. Gastric band is removed after adherences liberation. RYGB is performed in the same procedure without intraoperative complications. Patient was discharged on 2nd post-operative day. Correct follow-up was confirmed within telematic consults.

Conclusion:

Conversion technique after LAGB failure should be selected by each case. One-step conversion to RYGB seems feasible, though large randomized studies could have an impact in the decision making.

https://vimeo.com/722413019/1835881d13

V-037

GASTRIC BYPASS REVISION, WITH DRAMA

Revisional surgery

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Introduction:

We present a case of a 50-year-old female who had a prior Gastric Bypass done 15 years ago. She had a complicated post-operative course that the patient doesn't recall its details. We were faced by multiple intraoperative surprises that we will be showing in the video along with how we managed them intraoperatively

Objectives:

To present an example of the challenges that a surgeon can face during a revisional case.

Methods:

We demonstrate a video showing the unusual anatomy for a revision case, as well as the challenges that a surgeon might face after complicated initial surgery.

Results:

She presented for a revision and her work up showed a very dilated pouch consistent with the loss of restriction and she was scheduled for pouch reduction. In surgery, we found that she did not have an actual pouch, but rather her entire stomach, Also, her anastomosis was fused posteriorly to the remnant. The video shows meticulous dissection in a hostile field and dealing with surprising findings, along with managing a traction enterotomy. A new pouch was made, and the anastomosis was resected along with the distal posterior antrum (remnant), and a new gastro-jejunostomy was made.

Conclusion:

This case has educational value showing dealing with the unknown and managing injury intra-op.

https://vimeo.com/720867297/a3d2930334

V-038

GASTRO-COLIC FISTULA AFTER SLEEVE GASTRECTOMY AND ONE ANASTOMOSIS GASTRIC BYPASS

Revisional surgery

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Clinical Presentation:

A 29-years-old female patient was referred to our center. In 2011 she had a laparoscopic sleeve gastrectomy with an initial preoperative BMI of 53.35kg/m2 and a nadir BMI of 34.29 kg/m2. In March 2021 she had a BMI of 41.9 kg/m2 and therefore underwent a laparoscopic OAGB. After this procedure malnutrition complications started, TPN was started and in the end a jejunostomy was placed to feed the patient. In July 2021 she was diagnosed with a gastrocolic fistula.

In February 2022 the patient was referred to our center from a foreign country because of her gastrocolic fistula. Upon arrival she was cachexic and had only a weight of 47kg (BMI of 17.9 kg/m2). She complained of diarrhea, fecal incontinence, was bedridden and got enteral feeding through her jejunostomy.

Preoperative Tests:

Upper GI series shows a gastrocolic fistula, without any passage to the small bowel. The lab results show a severe hypokalemia of 1.66mmol/L and an albumin level of only 18.8g/L. Abdominal CT scan confirms the gastrocolic fistula.

Patient turned covid-19 positive and needed an admission to the ICU to receive TPN, get her electrolytes corrected and receive cortisone substitution. After 2 weeks of rehabilitation surgery was performed.

Operative Procedure and Management:

On the 14th of February she underwent a laparoscopic exploration which showed a sleeve gastrectomy with a stenosis and a gastro-colic fistula at the level of the corpus. There was no OAGB to be found. We performed a transection of the gastrocolic fistula, a wedge resection of the stomach at the level of the stenosis and performed a manual gastro-gastrostomy.

Post-operative Outcome:

Post-operatively the patient received antibiotics and antifungal therapy for a week. She received TPN to gain weight. The upper GI series at POD 2 showed no leak. At POD 10 the patient had a DVT of the jugular vein and received a high dose of LMWH, but got melaena as a side effect and needed transfusion. At POD 14 the patient developed catheter sepsis.

Six weeks after the operation the patient was on a normal peroral diet, had a BMI of 22 kg/m2 and returned to her home country.

https://vimeo.com/720875590/fda989611b

V-039

GASTRO-GASTRIC FISTULA AFTER A BANDED ROUX-EN-Y GASTRIC BYPASS

Banded procedures

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Clinical Presentation:

We present a 37-year-old female patient with weight regain after bariatric surgery.

In 2009 she had a gastric bypass. Preoperatively she weighed 165 kg (BMI 64.5 kg/m²). Post-operative Nadir of 100kg (BMI 64.5 kg/m²). Because of weight regain to 132.7 kg (BMI 51.6 kg/m²), she had an adjustable gastric band placed over the pouch in 2017. She lost weight up to 105 kg (BMI 41 kg/m²).

She consulted us in 2020 because of persistent epigastric pain, nausea and vomiting after eating. She also had diminished restriction for food intake and significant weight regain again.

Preoperative X-ray Images/Endoscopy/Blood Results:

Additional investigations (upper GI series, endoscopy and CT scan) showed the presence of a gastro-gastric fistula 1 cm above the adjustable band. Lab results showed iron deficiency anemia and hypovitaminosis D.

Operative Procedure:

We did a laparoscopic exploration with removal of the adjustable band and resection of the gastro-gastric fistula. There were no perioperative complications.

Post-operative Outcome:

There were no post-operative complications. She was dismissed on POD 2. She had an only-fluid diet for two weeks. Follow-up at eight months withheld no vomiting and good restriction. The current weight is 101 kg (BMI 39.4 kg/m²).

https://youtu.be/JJEGszsuGV8

V-040

GASTRO-PLEURAL FISTULA POST SLEEVE GASTRECTOMY

Endoscopic and percutaneous interventional procedures

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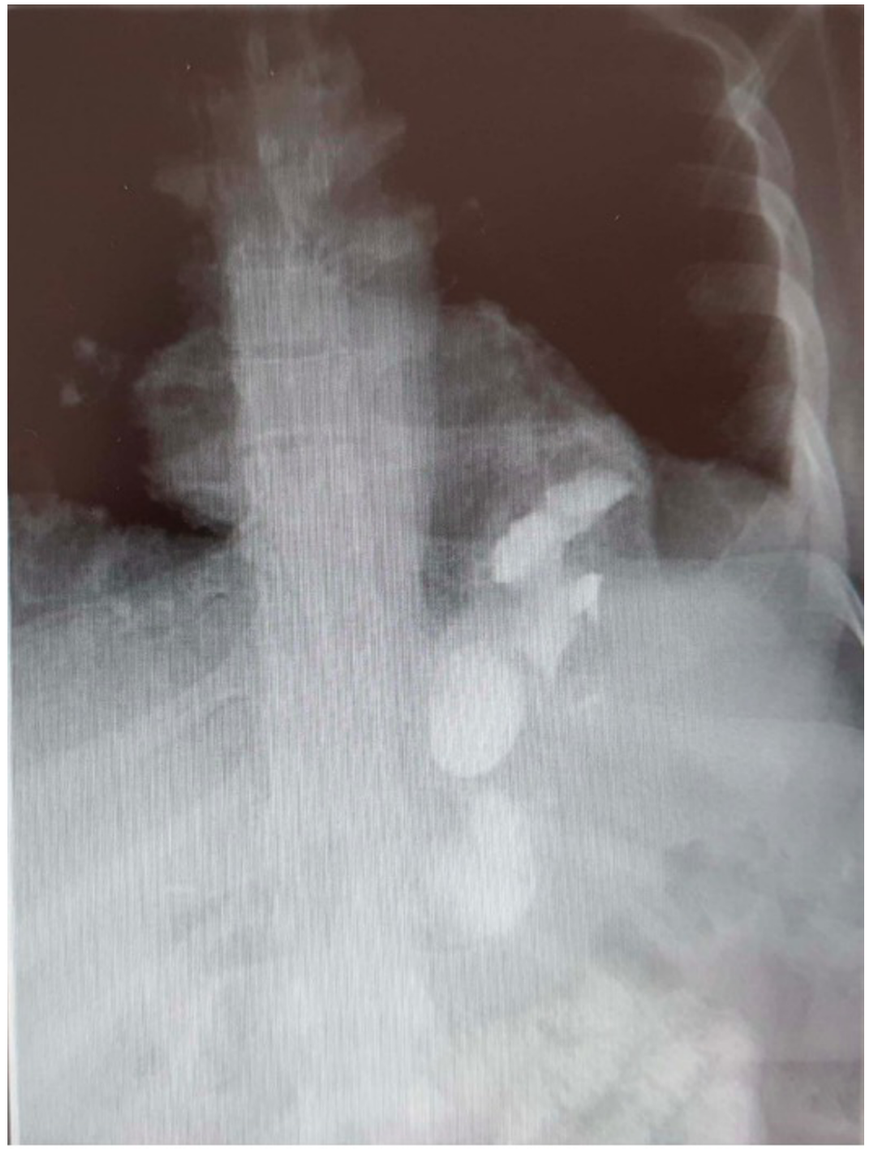
A 32-year-old female patient underwent Laparoscopic sleeve gastrectomy, complicated after 2 months by chronic leak and gastro-pleural fistula. A laparoscopic fistulo-jejunostomy feeding jejunostomy were done. The patient developed fistulo-jejunostomy stenosis well improved after dilatations (2 times). She has regular follow up in bariatric surgery clinic without issues.

https://vimeo.com/722767650/0779868fb9



V-041

GASTROESOPHAGEAL REFLUX AND BARRETT'S ESOPHAGUS AFTER GASTRIC BYPASS. FUNDOPLICATION WITH THE GASTRIC REMNANT

GERD and bariatric surgery

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Introduction:

Gastroesophageal Reflux Disease (GERD) after Roux-en-Y gastric bypass (RYGB) has a considerable incidence, which reaches 22% of patients who undergo surgery. The worsening of existing symptoms is more common after sleeve gastrectomy than RYGB (31,8% vs 6,3%). Revisional surgery can be a challenge in these cases, in which normal anatomy has been modified and there is not enough evidence in the literature about therapeutic options

Objectives:

The main purpose is to present a technical choice in GERD treatment after RYGB and discuss the potential restrictive effects in the gastric pouch that might appear with the use of the gastric remnant

Methods:

67-YO female with a BMI of 32 with GERD with poor response to PPIs treatment after she underwent surgery, laparoscopic RYGB in 2010 (50/150cm). The minimum post-surgical BMI was 27,3. Esophageal manometry was normal and the pHmetry showed GER with a 109,06 DeMeester and pH<4 of 23,3%. The gastroscopy revealed a 2cm hiatal hernia (HH), Barrett's esophagus (without dysplasia) and grade C esophagitis. Finally, esophagogastroduodenal transit (EGDT) evidenced GER and sliding HH.

Results:

Laparoscopic approach, firm adhesions between the left hepatic lobe and the gastric pouch are dissected. Thorough dissection for the correct identification of the gastric pouch, the gastrojejunal anastomosis and the hiatus. Candy cane is sectioned with an endostapler. Measurement of the alimentary limb to rule out other causes of reflux, such as biliary reflux. Dissection of the gastric remnant intimately adhered to the gastric pouch. Complete mobilization of the remnant adding a full section of the short gastric vessels. Calibration of the esophagus with a 42Fr tube. Hiatoplasty followed by Nissen fundoplication with the gastric remnant with non-absorbable Stratafix 2/0 running suture.

Post-operatively she evolved favorably and was discharged on the third day. During follow-up, there was resolution of GER symptoms without dysphagia. One-month TEGD shows adequate passing of contrast to the gastric pouch, without GER. Also, she reports early satiety and weight loss of 8kg after 2 months BMI 29.5

Conclusion:

Fundoplication of the gastric pouch using the gastric remnant is a safe and reproducible surgical procedure that can offer an anti-reflux valve mechanism in patients with GER after RYGB. In addition, it could add a restrictive component on the gastric pouch that could limit its dilatation and contribute to weight loss.

https://vimeo.com/720868355/31baf9f58d

V-042

GASTROJEJUNAL AND HIATAL HERNIA REVISION: CONSIDERATIONS IN REVISIONAL BARIATRIC SURGERY

Revisional surgery

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Background/Introduction:

As the volume of bariatric surgery increases nationally, there are also increases in long term complications of bariatric surgery. Although conversion to a gastric bypass is fairly exhaustive in so far as revisional surgery, there are often times when the gastric bypass after conversion will need to be revised. We present a case of a 33-year-old female who underwent a sleeve gastrectomy which was later converted to a gastric bypass with a hiatal hernia repair. However the patient developed oral intolerance as well as malnutrition evidence by excessive weight loss, poor dentition, hair loss. She was offered a revision of the gastrojejunal anastomosis as well as revision of the hiatal hernia repair after a fairly exhaustive preoperative workup. This case demonstrates special operative considerations during revisional bariatric surgery as well as revisional surgery after a conversion from gastric sleeve to bypass.

Objectives:

Emphasize special operative considerations during revisional bariatric surgery, and to demonstrate that revisional surgery after prior revision may also offer patient symptomatic relief and resolve malnutrition.

Methods:

We present a case study of a 33-year-old female who had a prior sleeve gastrectomy converted to a gastric bypass who presented with oral intolerance, dysphagia, excessive weight loss, and malnutrition. After a fairly exhaustive preoperative workup, the patient underwent gastrojejunal and hiatal hernia revision. She had an uncomplicated post-operative course and improved clinically on subsequent follow up.

Results:

The patient underwent laparoscopic gastrojejunal and hiatal hernia revision with a unremarkable post-operative course. Post-operatively, her symptomatology of dysphagia, oral intolerance and weight loss were resolved.

Conclusion:

This case study demonstrates that revisional surgery after prior gastric sleeve to bypass conversion may offer patients symptomatic resolution and improve malnutrition. The operative techniques demonstrated within this case highlight special considerations and difficulties in revisional bariatric surgery.

https://youtu.be/gJJUg6txQWY

V-043

GASTROJEJUNAL MISADVENTURE DURING A ROBOTIC ROUX-EN-Y BYPASS

Robotic bariatric surgery

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Background/Introduction:

31-year-old male with a history of asthma, metabolic syndrome, and morbid obesity who underwent robotic gastric bypass with Roux-en-Y.

Objectives:

Demonstrate the occurrence and correction of an inadvertent stapling of the gastrojejunal anastomosis within the mucosal/submucosal plane during a robotic-assisted, laparoscopic Roux-en-Y gastric bypass.

Methods:

While forming the gastrojejunal anastomosis during a routine Roux-en-Y gastric bypass procedure, the stapler anvil was inadvertently positioned within the mucosal/submucosal plane of the gastric pouch, leading to the formation of a mucosal flap. The gastric mucosa was approximated to the underlying submucosa using a running, barbed, absorbable suture. The common channel opening was ultimately closed in a standard two-layer fashion. The remainder of the procedure was uneventful. Upper endoscopy along with intra-operative leak testing verified closure of the gastrojejunal anastomosis.

Results:

Successful approximation of the gastric mucosa to the submucosa was performed robotically after inadvertent stapling within the mucosal/submucosal plane. The patient ultimately recovered well without any further complications.

Conclusion:

Sub-mucosal stapling during gastrojejunal anastomosis creation is an uncommon, yet correctable, technical error. The use of the robotic platform allows for greater dexterity and vision to perform repair of the gastric mucosal layer.

https://vimeo.com/720862232/0b382dd742

V-044

GASTROJEJUNOSTOMY DRAMA

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Laparoscopic gastric bypass is a technically challenging case. During the last few decades, many different techniques were developed to perform this procedure. In our institution, we perform the laparoscopic gastrojejunostomy with a linear stapler and hand-sewn closure of the common enterotomy with 2 unidirectional absorbable sutures, then we perform a routine upper endoscopy.

In our video, we demonstrated some of the challenges that can face the surgeon, and how can be managed. The first patient had a positive leak test, and the area of the leak was identified and reinforced successfully. The second patient had a persistent leak from anastomosis and then the lateral staple line. This is very unusual and perhaps was related to high-pressure insufflation. After many reinforcements, the leak stopped and the patient did well and was discharged timely.

The last patient had a false lumen of the gastrostomy that was identified after firing the linear stapler. Diagnosing this problem and managing it is illustrated, with anastomotic resection and redo.

We show that timely diagnosis and management in the operating room result in optimal results. All these patients did well and left as per routine without any re-admission.

https://vimeo.com/722413587/d4d5cc7ea1

V-045

HERNIA AND BARIATRIC SURGERY

Hernia surgery in the bariatric patient

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Introduction:

Increased incidence (up to 20%) of ventral hernia has been reported in morbidly obese patients

Factors influencing being were increased visceral fat, elevated intra abdominal pressure, Higher risk of surgical site infections leading to poor wound healing and incisional hernias and associated comorbidities Like diabetes and hypertension.

Factors to consider are

- •BMI > 50
- •Gynecoid body habitus
- •Midline reducible hernias
- •Abdominal wall thickness < 4 cm
- •Defects not exceeding 8 cm

Discussion:

Primary repair of hernia usually has higher risk of complications and high recurrence about 22-100% and about 51% in larger hernia studies. If hernia must be reduced in order to complete bariatric surgery higher incidence of (35%) complications like obstruction which can lead to gastric perforation of remnant, GJ disruption. Bariatric surgery and hernia at a later date causes improvement in comorbidities after bariatric surgery and reduces post op complications, repair will be technically easier. Drawback being some hernia related complications (more with smaller defects). Other option being Concomitant surgery of both bariatric and Hernia at same setting in possible cases as avoids two surgeries, Reduces anesthesia risk, more economical.

Conclusion:

Primary and incisional hernias are common in morbidly obese patients with associated complications of irreducibility, incarceration, obstruction or strangulation staged approach is recommended of bariatric surgery followed by repair of ventral hernia defect larger than 8-10 cm at a later date. Weight loss by bariatric surgery certainly improves long term outcome of ventral hernia repair done at a later date.

Concomitant hernia repair and bariatric can be done in selected cases of smaller defects less than 5 cm it is a feasible and safe obviating the need for two separate procedures while not hampering the outcome of either.

Keywords: Bariatric Surgery, Hernia, Ventral hernia

https://vimeo.com/722768369/d78dbf466b

V-046

HERNIA INTERNA EN PACIENTES POST BYPASS GÁSTRICO

Post-operative complications

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Introducción/Background:

La incidencia de hernia interna post Bypass Gástrico (BG) oscila entre 3 a 6 %, sin existir consenso respecto al cierre o no los defectos mesentéricos. Se presenta el caso de un paciente con esta complicación de relevancia clínica.

Paciente de 45 años con tiempo de enfermedad de 1 semana caracterizado por dolor abdominal difuso asociado a náuseas y vómitos. Como antecedente, hace 6 años fue operada de manga gástrica (MG) y hace 1 año convertida a BG por re ganancia de peso y reflujo post MG. Al examen se observa abdomen distendido y doloroso a la palpación difusa, sin signos peritoneales.

En la tomografía computarizada se evidenciaron múltiples asas intestinales delgadas distendidas y otras colapsadas. En el corte axial se ven diferentes puntos de transición con asas colapsadas y se evidencia el signo del remolino por hernia interna en un paciente con BG. La presentación clínica sugiere una obstrucción intestinal probablemente por hernia interna, por lo que se indicó intervención laparoscópica.

La cirugía inició con la colocación habitual de trocares en posición americana. Una vez realizado el neumoperitoneo, se evidenciaron múltiples áreas de distensión y de intestino colapsado. Se realizó el debaneo de las asas intestinales desde la válvula ileocecal de manera proximal. A 200 cm de la válvula ileocecal, se encuentró la yeyuno yeyuno anastomosis con hernia en el defecto del mesenterio de la misma. Ambos extremos fueron inspeccionados, se empezó con el asa bilio pancreática de manera proximal hasta el ángulo de Treitz e identificación de la vena mesentérica inferior. En la imagen se puede observar el asa alimentaria que ingresa hacia el defecto mesentérico, sale y luego vuelve a entrar por el mismo defecto formando un doble loop que ocupa gran espacio en la hernia interna. Se intenta reducir la hernia a través de defecto mesentérico sin éxito. Esto se debe no solo a la distensión del asa intestinal, sino también a bridas y adherencias que anclan el intestino en la posición herniada impidiendo la reducción. Se procedió a liberar algunas bridas con electrocauterio o tijera fría. Debido al doble loop formado en la hernia interna, se decide regresar uno de los loops a la zona herniada para luego reducir la hernia de manera más sencilla teniendo dos asas que salgan a través del defecto. El gran tamaño del defecto mesentérico, probablemente por el largo del asa bilio pancreática, es cerrado con dos suturas corridas de poliéster de manera hermética. Es importante evaluar la existencia de otros potenciales espacios para hernias internas y cerrarlos previo a la corrección del defecto identificado. No se recomienda usar puntos interrumpidos ya que pueden generar espacios inadvertidos.

Luego de la intervención, la paciente cursó con una evolución postoperatoria favorable y resolución de los síntomas, sin evidencia de recurrencia al alta hospitalaria.

https://vimeo.com/722992054/c272fddb36

V-047

HIATAL HERNIA AFTER GASTRIC BYPASS: SURGICAL REPAIR

Hernia surgery in the bariatric patient

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Background:

Gastric bypass is still considered the gold-standard bariatric surgery. This weight loss surgery is a safe and effective treatment for morbid obesity and associated metabolic impairments. Its long-term complications are rare but might include mechanical obstructions. Symptomatic obstruction caused by hiatal herniation is very rare, with very few cases described.

The physiopathology of hiatal hernia after gastric bypass may result from several predispositions in these patients, such as changes in tissue strength due to rapid weight loss or dissection injury of the diaphragm crura. However, due to the gastro-jejunal anastomosis, most hiatal hernias remain asymptomatic.

Methods:

We present the case of a 59-year-old patient that reported dysphagia, intolerance to solid food, epigastric pain and heartburn in the follow-up after laparoscopic Roux-en-Y gastric bypass. Abdominal CT described a sliding hiatal hernia with the gastric pouch and gastro-enteral anastomosis in the thoracic cavity. Surgical repairment of this defect was accepted by the patient.

Results:

This video shows a laparoscopic hiatal hernia repair. After complete dissection and mobilization of the gastric pouch and distal esophagus, we performed a cruroplasty reinforced with a bioabsorbable mesh. To prevent relapse and reflux, we carried out a fundoplication with the gastric remnant from the index surgery. There were no surgical or post-operative complications and the patient was discharged at POD 2. At the post-operative follow-up visit, the patient reported improvement of heartburn, dysphagia and pain with still sporadic solid food intolerance. Slow progression of diet was precluded and the food intolerance improved with time.

Conclusion:

Although rare, symptomatic hiatal hernias after RYGB might need surgical treatment. Complete and careful dissection of the gastric pouch, anastomosis and distal esophagus is required and the use of the remnant fundus, might help in relieving symptomatic reflux.

https://vimeo.com/722420605/eb80a712a

V-048

HIATAL HERNIA REPAIR DURING OAGB/MGB IN A MORBID OBESE PATIENT: HOW I DO IT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Hiatal Hernias (HH) are very common in obese patients undergoing bariatric surgery.

Preoperative HH diagnosis may guide surgeon's decision on the bariatric procedure to perform along with a precise intra-operative repair.

Objectives:

The video shows how we approach to HH repair during One Anastomosis/Mini Gastric Bypass (OAGB/MGB) procedure.

Methods:

34 years old female obese patient was admitted at our Centre for Bariatric Surgery. Body Mass Index (BMI) was 46 kg/m2 and the at pre-operatory work-up an esophagogastroduodenoscopy (EGD) showed several esophageal erosions limited to the mucosal fold no larger than 5 mm in extent (class A esophagitis according to Los Angeles classification) and a huge HH. The patient was planned for an OAGB/MGB with HH repair.

Due to a huge esophageal hiatus defect, HH was approached firstly with its reduction in the abdomen. The angle of His was identified and the fat pad at the esophago-gastric junction was dissected in order to visualize the diaphragm's left crus; then, peri-esophageal adhesions and phreno-esophageal ligament were sectioned. A retrogastric tunnel was created to pass a suspension loop. Blunt mobilization and retraction of lower esophagus was performed to better expose the defect. The left and right pillars were approximated with three interrupted 2/0 absorbable stitches. After HH repair, a standard OAGB/MGB was performed, creating a 16 cm gastric pouch and fashioning a gastrojejunostomy at 200 cm from ligament of Treitz. An abdominal drainage under the gastrojejunostomy and a naso-gastric tube (NGT) were placed.

The NGT was removed 24 hours after the surgical procedure; on post-operative day (POD) 3 the patients started a liquid diet; on POD 5 she was discharged. No early (<30 days) complication occurred.

Results:

At the follow-up after 6 months, BMI decreased to 33 kg/m2 and the patient reported a complete remission of esophageal symptoms.

Conclusion:

When a huge HH is pre-operatively or intra-operatively detected, a hiatoplasty is always to be considered during a bariatric procedure. In our experience, OAGB/MGB has proved to be a safe and effective technique even when associated with hiatoplasty.

https://vimeo.com/722421061/e8b6dffae6

V-049

HIATOPLASTY AND RE-SLEEVE AFTER SADI-S IN A PATIENT WITH RECURRENT HIATAL HERNIA AND SEVERE GERD

Revisional surgery

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Background:

Symptomatic gastroesophageal reflux disease (GERD) is a common outcome in patients with previous sleeve gastrectomy that need revisional bariatric surgery. Best technique to manage GERD after Single Anastomosis Duodeno–Ileal bypass with Sleeve gastrectomy (SADI-S) is still controversial.

Objectives:

We aimed to report our experience as centre of excellence in a case with severe GERD after SADI-S. We performed a hiatoplasty and Bio-A mesh reinforcement associated with re-sleeve.

Methods:

A 48-year-old woman with BMI 32.9 and previous SADI-S procedure in 2020 presented hiatal hernia and severe GERD in post-operative follow-up. Esophago-gastric transit scintigraphy showed hiatal hernia. Revisional laparoscopy is decided.

Results:

Re-sleeve of fundus is performed to resize enlarged previous gastrectomy. Hiatus is dissected after adherences liberation. Hiatoplasty with non-absorbable suture is performed. A Bio-A Mesh was placed sutured at each pillar of the hiatus with non-absorbable monofilament to reinforce the hiatus. No complications in the follow-up were presented and GERD symptoms were controlled.

Conclusion:

Re-sleeve with hiatoplasty seems feasible and a safe technique for GERD management after SADI-S surgery. It can be considered as a possible option in bariatric revisional surgery for reflux.

https://vimeo.com/722424250/57c5fa40b8

V-050

HIATUS MANAGEMENT IN SLEEVE TO RYGB CONVERSION FOR GERD – TO MESH OR NOT TO MESH

GERD and bariatric surgery

R. Blanco-Colino, A. García Ruiz De Gordejuela, R. Vilallonga, L. Vidal Piñeiro, N. Fernandes, E. Caubet Busquet.

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Background:

Conversion to Roux-n-Y Gastric Bypass is the Gold Standard in cases of severe GERD after Sleeve Gastrectomy. Hiatus examination is highly recommended. There is consensus in hiatal closure when hiatal hernia is present, but no evidence about mesh placement.

Objectives:

With this video we aimed to describe our centre technique of hiatus repair during bariatric surgery conversion with a bioabsorbable mesh.

Methods:

A 56-year-old woman with previous Sleeve Gastrectomy in 2014 and a current BMI of 36kg/m2 is presented. Further examinations were done due to post-operative GERD. Endoscopy found grade B esophagitis and a Hiatal Hernia. pH meter showed moderate acid reflux. Conversion to RYGB was decided with intraoperative examination of hiatus.

Results:

Conversion to Gastric Bypass was done including closure of the hiatus with non-absorbable suture. A Bio-A Mesh 7x 11 cm was placed and was fixed with absorbable monofilament stitches at each pillar of the hiatus. Patient was discharged on 2nd post-operative day. During the follow up, correct food tolerance and no GERD symptoms were confirmed.

Conclusion:

Mesh use for hiatus repair during conversion surgery to RYGB for GERD seems feasible and an option to keep post-operative results during the follow-up.

V-051

HILL'S GASTROPEXY PROCEDURE FOR GASTROESOPHAGEAL REFLUX AND HIATAL AFTER SINGLE ANASTOMOSIS DUODENOILEAL BYPASS-SLEEVE GASTRECTOMY

GERD and bariatric surgery

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Introduction:

A concerning increase of gastroesophageal reflux disease (GERD) has been reported after sleeve gastrectomy (SG). There are some controversial results on de novo GERD after SG between quality-of-life studies and endoscopic findings and functional studies with pHmetry and manometry. Nowadays, it is advised to repair the hiatal hernia (HH) along with the SG at the primary surgery or in the post-operative follow-up if GERD or HH appear. However, as the SG involves the resection of the fundus, it is not possible to add a traditional fundoplication to the closure of the hiatus. Consequently, GERD after single anastomosis duodenoileal bypass-Sleeve gastrectomy (SADI-S) technique could be a challenging situation to solve.

Objectives:

To expose a GERD case after SADI-S treated with Hill's gastropexy as a revisional procedure.

Methods:

Our group has incorporated a modified Hill's gastropexy for SADI-S to treat pathologic de novo GERD and/or huge hiatal hernia that appear after significant weight loss.

Results:

A 48-year-old patient was scheduled for revisional surgery after developing symptomatic GERD and HH after SADI-S. The upper gastrointestinal series showed a 5 cm HH and spontaneous reflux. The esophageal manometry described a pathologic acid reflux with a hypotonia of lower esophageal sphincter. In surgery, left crus was dissected and phrenoesophageal membrane opened to individualize the distal esophagus and reduce the HH. Afterwards, the hiatus was closed using a 60Fr bougie with interrupted sutures and a bioA mesh. Finally, in order to add a fundoplication technique and reinforced the hiatoplasty, the modified Hill's gastropexy was applied with two stitches from lesser curvature below the esophagogastric junction (EGJ) to the arcuate ligament at the root of the right crus. The immediate post-operative period has been satisfactory and the patient has not complained of GERD symptoms.

Conclusions:

Gastropexy to the preaortic fascia (arcuate ligament) is a possible antireflux technique to combine with hiatoplasty for de novo GERD after SADI-S.

https://vimeo.com/722422358/faec1ea4bb

V-052

HOW TO ACHIEVE A SYSTEMATIC LAPAROSCOPIC APPROACH OF AN UNIDENTIFIED PERFORATION ASSOCIATED WITH A ROUX-EN-Y GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Background:

Roux-en-Y gastric bypass (RYGB) is a common surgical intervention for morbid obesity, which is not exempt from complications; there is very important the early recognition and management. This presentation describes the detailed laparoscopic video reviewing in a post RYGB complication.

Methods:

Presentation of a systematized laparoscopic video procedure to identify incidental injury in a patient whose clinical evolution was not normal. Despite a negative tomography, a reoperation was performed, achieving its resolution laparoscopically. The objective of this video is to demonstrate that, with a detailed and systematized approach of the procedure; the correct identification of this complication could be achieved and adequately resolved.

Methods:

A 50-year-old male patient with morbid obesity, BMI 45, was scheduled for RYGB. On the second post-operative day he presented abdominal pain, tachycardia, leukocytosis, CT scan was performed without abnormalities reported, perhaps the clinical presentation was dramatically worse, and a diagnostic laparoscopy was indicated. During the reoperation was found intestinal fluid in the abdominal cavity, 3 mm perforation 70 cm distal to the jejunojejunal anastomosis on the mesenteric border, performing laparoscopic suture, lavage and drainage of the abdominal cavity, with very good post-operative resolution.

Conclusions:

Laparoscopic approach of an incidental perforation after bariatric surgery is feasible and safety, especially if it is performed using a systematized approach, and could avoid an open surgery that increase the morbidity and mortality.

Working now

https://vimeo.com/722422930/267e313e11

V-053

ICG-FI, A HELPFUL TOOL IN BARIATRIC EMERGENCY SURGERY: A CASE REPORT

Post-operative complications

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Introduction:

Internal hernias appear in about 5% of patients undergoing a Roux-en-Y gastric bypass, they are the most common cause of small bowel obstruction in this patients. Indocyanine Green fluorescent imaging (ICG-FI) has became a useful tool to evaluate tissue perfusion and there is an increasing interest in its use as an intraoperative quality control. In some fields, as colorectal surgery, its use has already been standardized to check anastomotic perfusion to reduce the risk of anastomotic leaks. As it is a safe and feasible technique, it could also be used in emergency surgery.

Results:

We present the case of a 47-year-old woman presented to the Emergency Department with epigastric abdominal pain and nausea without vomiting. She had surgical history of Roux-en-Y gastric bypass (2016) and emergency surgery (2019) due to a Petersen's hernia, both with a laparoscopic approach. The blood tests didn't show relevant alterations but the abdominal x-ray suggested bowel obstruction. In the CT scan the ""mesenteric swirl"" sign was described, suggesting a small bowel obstruction due to a new internal hernia. An emergency laparoscopy was performed with the patient in beach-chair position, two 5mm trocars in the left upper quadrant and a third one in the right one. We found a recurrent internal hernia in the Petersen's defect. The suture of the previous surgery was identified only in the mesocolon. After reducing the hernia, a 50 cm bowel segment (common channel) remained with hypoperfusion signs. In this context, we decided to use the ICG-FI to check the perfusion before performing a bowel resection, what at that point seemed to be required. The ICG-FI was positive at 45", with a delay of 20" compared with the rest of the bowel. We decided to give it a chance and we closed first the Petersen's defect with a nonabsorbable suture. Then, after checking the ICG had been washed out, we repeated its administration, resulting positive at 15"""" so the bowel resection was finally avoided. The patient recovery was uneventful and she was discharged in the third postoperative day.

Conclusion:

The ICG-FI has new applications every day, and as it is safe and feasible, it can be use in emergency surgery too. In bariatric emergency surgery due to a small bowel obstruction it can be an interesting tool to select those patients who really need a bowel resection, as there is an increased risk of short bowel syndrome in a patient with a previous Roux-en-Y gastric bypass.

https://vimeo.com/720848632/4c5ee1dede

V-054

INCARCERATED INGUINAL HERNIA CONTAINING JEJUNOJEJUNOSTOMY AFTER ROUX-EN-Y GASTRIC BYPASS

Hernia surgery in the bariatric patient

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Background:

Small bowel obstruction (SBO) can occur at any time after Roux-en-Y gastric bypass (RYGB), with a lifetime incidence of 3-5%. SBO after RYGB is most commonly due to adhesions, internal hernia, incisional hernia, or intussusception. There are not any case reports involving SBO due to incarcerated inguinal hernia containing jejunojejunostomy after RYGB. Patient is a 66-year-old male (279 lbs., BMI 40) with history of robotic RYGB 4 years ago (BMI 56) and reducible left inguinal hernia for 1 year who presented with worsening abdominal pain, nausea, vomiting, and obstipation for 2 days, along with an enlarging, incarcerated left inguinal hernia. CT scan showed evidence of incarcerated left inguinal hernia containing jejunojejunostomy from prior RYGB. We present a case of laparoscopic management of incarcerated left inguinal hernia containing jejunojejunostomy of RYGB.

Methods:

The video demonstrates technique for laparoscopic reduction of incarcerated left inguinal hernia containing jejunojejunostomy of RYGB and laparoscopic left transabdominal preperitoneal inguinal hernia repair with mesh.

Results:

Post-operatively, the patient did well and was discharged to home on post-operative day 1. He did not have any complaints at his follow up appointments. Patient has been tolerating his diet and having bowel function.

Conclusion:

Consider incarcerated inguinal hernia containing jejunojejunostomy as a possible etiology for post RYGB patients presenting with small bowel obstruction and inguinal hernia. Awareness of this complication allows surgeons to have the opportunity to intervene immediately.

https://vimeo.com/722423476/88c78cb4ba

V-055

INCARCERATED PARAESOPHAGEAL HERNIA CONTAINING GASTRIC POUCH AND ROUX LIMB

Endoscopic and percutaneous interventional procedures

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Background:

The lifetime incidence of small bowel obstruction (SBO) after Roux-en-Y gastric bypass (RYGB) is 3-5% and can occur at any time. Most commonly, SBO after RYGB is due to adhesions, internal hernia, intussusception, or incisional hernia. An unusual etiology of SBO after RYGB is an acute incarcerated paraesophageal hernia. Patient is a 49-year-old female (184 lbs. BMI 31.7) with history of a laparoscopic sleeve gastrectomy 8 years ago (BMI 37) and laparoscopic Roux-en-Y gastric bypass 2 years ago (BMI 37) who presented with acute epigastric pain, nausea, and vomiting. There was evidence of incarcerated left paraesophageal hernia containing gastric pouch and small bowel seen on CT scan. We present a case of laparoscopic management of incarcerated type 4 paraesophageal hernia containing gastric pouch, roux limb, and omentum.

Methods:

The video demonstrates technique for laparoscopic reduction and repair of incarcerated type 4 paraesophageal hernia containing gastric pouch, roux limb, and omentum.

Results:

Post-operatively, the patient did well and was discharged to home on post-operative day 1. She did not have any complaints at her follow up appointments. Patient has been tolerating her diet and having bowel function.

Conclusion:

Incarcerated paraesophageal hernia can present late after RYGB. Laparoscopic reduction and repair of incarcerated paraesophageal hernia after RYGB is a safe, effective, and well tolerated procedure.

https://vimeo.com/722425011/43876f6987

V-056

INCISIONAL HERNIA REPAIR WITH BIOLOGIC MESH

Impact of bariatric surgery on other surgical outcomes- transplant ortho and hernia

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Background:

Surgical mesh is commonly placed in incisional hernia repair as an adjunct to primary fascial closure and has been shown to reduce hernia recurrence. Synthetic mesh is used most widely, with biological meshes typically reserved for use in contaminated cases or in high-risk patients. Biological meshes are fully-resorbable, biologically derived extracellular matrices.

Objective:

The role of biological mesh in abdominal wall reconstruction has not been adequately researched and still needs to be defined. This video demonstrates a case in which biologically-derived was used to repair an abdominal wall defect.

Methods:

In this video, we describe the laparoscopic repair of two large ventral abdominal wall defects using biological mesh in a clean-contaminated setting following a roux-en-y gastric bypass in a high-risk, obese patient.

Results:

Both ventral abdominal wall defects were successfully repaired and reinforced with biological mesh. The patient experienced favorable post-surgical outcomes without hernia recurrence, post-operative infection, or readmission.

Conclusions:

Biological mesh is a successful and feasible option for abdominal wall reconstruction in contaminated cases or in high-risk patients. More research is warranted to determine the efficacy of biological mesh versus that of synthetic mesh as well as to compare the likelihood of post-operative complications or recurrence.

https://vimeo.com/722425581/fa67a472e9

V-057

INTEREST OF SINGLE-PORT SURGERY AND SURGICAL CORRIDOR: EXAMPLE OF A SLEEVE GASTRECTOMY IN A SUPER OBESE PATIENT WITH PAST HISTORY OF MULTIPLE LAPAROTOMIC SURGERY

Revisional surgery

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Background:

Single-port sleeve gastrectomy (SPSG) has been reported to be technically feasible, reproductive and safe even in super obese patients (SOP). The “surgical corridor” and the “parietal space” are two concepts introduced by the single-port that are particularly interesting in SOP. We suggest that these concepts can also be very interesting in multi-operated patients with a past history of laparotomies and with many intra-peritoneal adhesions.

Method:

In this video, we report the case of a 57 years-old super obese patient with an initial BMI of 52 kg/m2 and many comorbidities. She was previously operated of an adjustable gastric band in 2011 that was removed in 2017 due to failure. A gastric bypass was attempted in the followings but failed due to many intra-peritoneal adhesions following multiple surgical procedures with intraperitoneal mesh for an incisional parietal hernia.

Results:

Single-port sleeve gastrectomy was successfully performed after targeted adhesiolysis and did not lead to any complications. The patient was discharged two days after surgery. After a 24 months follow-up, the excess weight loss was 65%.

Conclusion:

Single-port sleeve gastrectomy, with the notion of surgical corridor, is a valid option in multi-operated patients with many intra-peritoneal adhesions.

Key words: sleeve gastrectomy, single-port, super-obese patient, past history of laparotomy, surgical corridor, parietal space.

https://vimeo.com/724672437/683117bc70

V-058

INTERNAL HERNIA - PETERSEN HERNIA - HOW WE DO IT

Post-operative complications

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Background/Introduction:

Internal hernias after laparoscopic RY gastric bypass have an incidence of approximately 1-10%. CT imaging in the diagnosis of an internal hernia has a sensitivity of 28.6% and specificity of 90%.

Objectives:

We present a case of a patient with a Petersen hernia and demonstrate the surgical steps.

Methods:

38 years old female patient with acute onset of abdominal pain on the left side of the abdomen for the past two days. This patient had a proximal RY gastric bypass in 2017 (initial BMI 41.2 kg/m2, current BMI 23.6 kg/m2). Up to this point unremarkable course.

The blood tests were unremarkable. We performed a CT scan of the abdomen with oral and IV contrast. This showed no evidence of an internal hernia or signs of disruption of the bowel passage. We performed a diagnostic laparoscopy.

Results:

In the diagnostic laparoscopy we could diagnose a Petersen hernia. We performed the reposition of the hernia and closed the petersen space. The patient was dismissed on the second post-operative day. No other problems reported until today.

Conclusion:

If the clinical presentation of a patient suggests a possibility of an internal hernia a diagnostic laparoscopy should be indicated.

https://vimeo.com/720879503/804e2d2847

V-059

INTRA-THORACIC HERNIATED REMNANT STOMACH AFTER A ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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Clinical Presentation:

A 42-years-old male patient was initially referred to our center because of a hernia of the remnant stomach. In 2019 the patient had a Roux-en-Y gastric bypass after the removal of a band. Preoperative weight was 192 kg (BMI 57.3 kg/m2). Nadir weight of 142 kg (BMI 42.4 kg/m2).

At time of arrival, the patient was asymptomatic. The patient was on a NOAC. A barium swallow test showed good passage. The patient was discharged the day after and an elective procedure was planned.

A few days later the patient consulted at the emergency department because of an acute deterioration with complaints of dyspnea, orthopnea and epigastric pain and pain at the left shoulder.

Preoperative Tests:

Laboratory results show a leukocytosis of 16.000 and a CRP of 256 mg/L. Lactate is normal. Barium swallow test is normal. CT abdomen shows an intra-thoracic herniated remnant stomach, status after RNY gastric bypass. The remnant stomach has been herniated through a secondary opening in the diaphragm.

Operative Procedure and Management:

On the 14th of April 2022 we performed an urgent laparoscopic exploration with a reduction of the herniated remnant stomach. The remnant stomach was strangulated and ischemic, we therefore performed a subtotal gastrectomy. During dissection the pouch was damaged and therefore a redo of the gastro-jejunostomy was performed. Primary closure of the secondary diaphragmatic hernia was performed. And a chest tube was placed.

Post-operative Outcome:

Post-operatively the patient was transferred to the ICU. Antibiotics and antifungal therapy were given for a week. Control barium swallow test post-operatively was good and showed no leakage and a good passage. The patient was placed on an only-fluid diet for two weeks. At POD 5 the patient was discharged.

https://vimeo.com/720873972/06a6782910

V-060

INTRAOPERATIVE DIAGNOSIS AND MANAGEMENT OF ROUX-EN-O CONFIGURATION

Bariatric training

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Background:

Roux-en-O is a rare surgical complication in which the Roux-en-Y is misconfigured. This error is likely due to misperception of the ends of the Roux and biliopancreatic limbs, which leads to disorientation of the common channel and Roux limb. Patient is a 58-year-old female (339 lbs., BMI 55.7) with history of laparoscopic gastric band 4 years ago and laparoscopic removal of gastric band and conversion to sleeve gastrectomy 2 years ago. She presented for an elective laparoscopic conversion of sleeve gastrectomy to Roux-en-Y gastric bypass for treatment of weight regain after bariatric surgery. We present a case of intraoperative diagnosis and management of Roux-en-O configuration.

Methods:

The video demonstrates intraoperative recognition and treatment of Roux-en-O, including technique and clinical pearls. The jejunojejunostomy mesenteric defect closure did not appear correct; therefore we ran the bowel proximal and distal to the jejunojejunostomy. We found that the roux limb was anastomosed to itself. The bowel distal to the jejunojejunostomy was divided and used as the new proximal end of the roux limb. A new jejunojejunostomy was created after reassurance of biliopancreatic, roux, and common limbs.

Results:

Patient did well post-operatively and was discharged home on the next post-operative day. She was seen at her 20-week follow up appointment. Patient did not have any complaints or issues. She had an EWL of 29%, BMI of 46, and weighed 285 lbs.

Conclusion:

Intraoperative detection and treatment of Roux-en-O is imperative. Understanding the anatomy of Roux-en-Y gastric bypass is a fundamental aspect of bariatric surgery fellowship training.

https://vimeo.com/722426330/d980eade0e

V-061

LAPAROSCOPIC CONVERSION OF GASTRIC PLICATION TO SLEEVE GASTRECTOMY

Revisional surgery

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Background:

Laparoscopic gastric plication is a rare technique in the management of obesity. The aim is to reduce the volume of the stomach and/or the gastric outlet, while minimizing the morbidity that may be associated with resectional bariatric techniques. However, there are significant proportion of patients whose weight loss will be unsatisfactory and will request revisional surgery. Here we describe the conversion of such a case to a sleeve gastrectomy.

Objective:

To demonstrate the technical aspects of laparoscopic conversion of laparoscopic gastric plication to sleeve gastrectomy.

Methods:

Retrospective review of a patient who requested a revisional procedure to aid weight loss. The video describes conversion and clinical aspects of the case.

Results:

A 39-year-old female, with BMI 37 kg/m2 underwent an unremarkable laparoscopic gastric plication in 2014. She presented as she was not satisfied with the weight loss, only managing 7 kg, which she had put back on. Despite a number of diets since, there was no long-lasting effect. Her only past medical history was infertility. The patient preference was for a sleeve, and as there was no reflux or other contra-indication, she was consented and booked accordingly.

She completed a two-week liver shrinkage diet with a resulting 6 kg of weight. A Veress needle was used for insufflation, followed by initial entry with a 12 mm visiport a hand breadth from the xiphisternum, to the left of the midline. A further 2 12 mm ports and 5 mm port was inserted, with a liver retractor in the epigastrium.

At laparoscopy an inverted greater curvature was found. Dissection began with careful separation of the greater omentum adhesions off the stomach. The inverted sutured line was carefully opened using a combination of diathermy and sharp dissection. This was carried out from the pylorus up to the angle of His. A hiatal hernia was found, which was dissected then repaired with an anterior and posterior closure. A 36F calibrating tube was used, with the resection starting 3 cm from the pylorus. The staple line was reinforced. Methylene blue leak test was negative. She was discharged on post-operative day two without any concerns.

Conclusion:

This video demonstrates a safe method of revising the gastric plication to a sleeve gastrectomy. There are many similar patients who will require revisional surgery in future for lack of weight loss. As evident, it would have been equally feasible to convert to a Roux en Y bypass.

https://vimeo.com/722427079/db0fa109fa

V-062

LAPAROSCOPIC CONVERSION OF VERTICAL BANDED GASTROPLASTY TO ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

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Background:

In this case we demonstrate the laparoscopic conversion of vertical banded gastroplasty to Roux-en-Y gastric bypass.

Methods:

The patient is a 51-year-old female with diabetes who underwent vertical banded gastroplasty in 2005 at an outside hospital. She presented to our health system in 2017 with weight regain and an A1c of 11. Despite aggressive medical management she maintained a BMI of 50 and an A1c of 9. An upper GI series and EGD were performed, which demonstrated a vertical banded gastroplasty with a large pouch size.

She was taken to the operating room for laparoscopic revision to Roux-en-Y gastric bypass. An extensive adhesiolysis between the stomach, liver, and abdominal wall was performed. Once the stomach was freed from surrounding adhesions, the anatomy could be visualized as a permanent horizontal band and a vertical noncut staple line separating the pouch from the rest of the fundus. The band was easily traversed with an endoscope. The stomach was then transected proximal to the band to create a new gastric pouch. A small corner of the pouch lateral to the vertical staple line was inspected under indocyanine green angiography and appeared well perfused. A stapled jejunojejunal anastomosis was then performed followed by a stapled gastrojejunal anastomosis. The common enterotomy was closed in two layers.

The patient was discharged on post-operative day 2 tolerating clear liquid diet, and was documented to be losing weight without complications at a 3-month post-operative visit.

Discussion:

VBG was introduced by Mason in 1982. It achieved restrictive weight loss by the creation of a stapled lesser curve-based gastric tube, supported distally by an extrinsic implant. As the gastric tube was not divided, weight gain was common from gastrogastric fistula due to the recanalization of the vertical staple line. Patients also commonly present for dysphagia and GERD from gastric outlet obstruction, which can be due to erosion of the band at the distal part of the gastric tube. Conversion to RYGB is the procedure of choice, to ensure adequate weight loss, and with lower leak rates than conversion to sleeve or BPD-DS. Intraoperatively, endoscopy and methods of assessment of tissue perfusion should be used liberally. The surgeon must be aware of risk of bleeding particularly from liver adhesions, and in some cases the procedure may need to be aborted.

https://vimeo.com/722427815/5072346bc4

V-063

LAPAROSCOPIC GIANT HIATAL HERNIA REPAIR AND SIMULTANEOUSLY ROUX-EN-Y GASTRIC BYPASS

Hernia surgery in the bariatric patient

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Background:

Laparoscopic Roux-en-Y gastric bypass (RYGB) is one of the most performed surgical treatments for morbid obesity and it controls the most common symptoms and complications of gastroesophageal reflux (GERD). Morbidly obese patients commonly have gastroesophageal reflux (GERD) and associated hiatal hernias (HH) due to increased abdominal pressure as a result of central obesity.

Methods:

A 43-year-old male with a BMI 37.6 kg/m2 presented with progressive mild dyspnea, mostly present coughing, belching, regurgitation, and pyrosis. Medical history revealed metabolic syndrome besides his morbid obesity, there were no other findings revealed by physical examination. CT scan and upper GI endoscopy showed a mixed sliding and paraesophageal hernia, with almost half stomach into the chest. Benefits and risk factors of the surgery were explained and consent for laparoscopic hiatal hernia repair (HHR) with RYGB taken. A surgical intervention combining a RYGB with HHR and was performed. Large hiatal/diaphragmatic hernia with almost half of stomach into the mediastinum with adhesions around was found, the hernia was taken down and the crura was closed with no absorbable suture, followed by a conventional RYGB. No post-operative complications were reported.

Conclusion:

Laparoscopic approach of morbid obesity with giant hiatal hernia is feasible and safe, RYGB and HHR appears to be a good alternative for those patients.

https://vimeo.com/722697760/75fba77add

V-064

LAPAROSCOPIC GY ANASTOMOSIS REDO FOR A PERFORATED MARGINAL ULCER AFTER ROUX-EN-Y GASTRIC BYPASS IN A PATIENT WITH SIMULTANEOUS ACUTE CHOLECYSTITIS

Post-operative complications

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Introduction:

Late complications in bariatric surgeries present after 30 days; ulcers at the gastrojejunal anastomosis are known as marginal ulcers. Main causes include acid exposure, NSAID and smoking. Most cases are symptomatic, but asymptomatic patients, lead to a chronic ulcer that can perforate. Conservative management of marginal ulcers is successful in most patients, surgery may be indicated if perforation occurs.

Objectives:

To review the diagnostic approach and management in an asymptomatic patient with a history of RYGB and smoking behavior presenting a perforated marginal ulcer with concomitant acute cholecystitis.

Methods:

A 69-year-old female presented to the emergency department with epigastric and right upper quadrant abdominal pain radiating to the back, nausea and vomiting. The patient had a history of chronic cigarette smoking and a RYGB four years prior. On physical examination, the abdomen showed diminished bowel sounds and tenderness. Laboratory results: white cell count (WBC) 8680, total bilirubin 3.32 mg/dL and direct bilirubin 2.86 mg/dL. Ultrasound showed gallbladder wall thickening and edema.

CT showed pneumoperitoneum and fat stranding. Diagnostic laparoscopy was performed and fibrinous and purulent exudate was visualized. Blunt dissection of adhesions was performed and a posterior marginal ulcer was discovered. Resection of the ulcer was performed using a linear stapler and gastrojejunostomy was performed also with a linear stapler, closure was made in one layer with running absorbable 2-0 barbed suture. Excess length of non-functional Roux limb was removed. Intraoperative upper endoscopy and an air leak test were performed.

Results:

Our patient showed good post-operative course. The patient was started on broad-spectrum antibiotics and TPN. On POD 1 leak test was performed. On POD5 a water-soluble contrast swallow and another leak test were performed, both with no abnormalities; amelioration of clinical symptoms was observed and a clear liquid diet was initiated. The patient was discharged on POD7. On outpatient visit, the patient was advanced to a soft food diet and no post-operative adverse outcomes were reported.

Conclusion:

Marginal ulcer is a common complication after RYGB. Follow-up with upper endoscopy is recommended especially in patients with risk factors such as smoking. Cigarette smoking is associated with an elevated risk of marginal ulcer formation, therefore smoking cessation prior to bariatric surgery is strongly.

https://vimeo.com/720873255/8266bb986f

V-065

LAPAROSCOPIC MANAGEMENT OF PERFORATED MARGINAL ULCER

Endoscopic and percutaneous interventional procedures

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Introduction:

Marginal ulcer presents at the gastrojejunal anastomosis in up to 16% of the patients after a gastric bypass. It has been associated with Helicobacter pylori infection, non-steroidal anti-inflammatory drugs (NSAIDs) and tobacco use. Perforation of the marginal ulcer is a surgical emergency with an incidence of 1%. Management can be done with revision of the anastomosis or primary repair.

Objectives:

To present the laparoscopic management of a perforated marginal ulcer after Roux-en-Y gastric bypass (RYGB).

Methods:

Video presentation of a single patient undergoing laparoscopic repair of a perforated marginal ulcer on a patient with a prior failed laparoscopic RYGB converted to open.

Results:

We present a successful repair of a perforated marginal ulcer achieved with a laparoscopic approach. The repair was done with barbed absorbable suture, omental patch and intra-operative endoscopy. Patient was discharged on post-operative day six with soft diet after an upper gastrointestinal series showed no leak.

Conclusion:

Perforation of a marginal ulcer is a surgical emergency. Laparoscopic primary repair can be safely done with good results as published by other studies.

https://vimeo.com/726184854/365e069168

V-066

LAPAROSCOPIC MANUAL REPAIRING OF A DEHISCENCE OF THE GASTRO-JEJUNUM ANASTOMOSIS AND JEJUNUM JEJUNUM ANASTOMOSIS AFTER A GI BLEEDING

Post-operative complications

N. Apaez Araujo[1], N. Albores de la Riva[2], M. Arceo Tovar[3].

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Background:

- 32-year-old female. Originary and resident of CDMX. Hypothyroidism diagnosed 8 months earlier, actually in treatment and in follow-up with an endocrinologist with levothyroxine 50 mcg every 24 hours. Allergies, Traumatic, transfusional, previous hospitalizations, and surgical background denied.
- Weight: 120 kg, Height 159 cm, BMI: 47.4 kg/m2. BP: 120/80 mmhG, HR 80, FR 18.
- Endoscopy: Hiatal hernia, type I, 1 cm, none complicated, with body and antrum folicular gastropathy (infection with H. pylori). Completed treatment for H.pylori eradication for 15 days.
- Laboratory: Leu 9.2 x103mm3, Hb 14 g/dl, Hto 43%, Plaq 314 x103 mm3, Glucosa 82 mg/dl, TGO 22 UI/L, TGP 16 UI/ L, GGT 33 UI/L, Alb 3.9 g/dl, Creat 0.5.
- 17/04/19 a LRYGBP with long biliopancreatic limb, was made, without any complication. 200 cm Biliopancreatic limb. 50 cm Alimentary limb
- The hospital discharge was at day 18/04/19, without any complication, tolerating liquid diet, with serohematic discharge at the drainage, 9 ml, with the following vital signs: HR 103, RR 18, BP 126/80, T 37.6ºC.

26/04/19: Started at day 9, at 5:00 am, with abdominal pain, which started suddenly, with a great intensity, at meso and epigastrium, with 5 episodes of hematemesis, which comes accompanied with general discomfort, this being the reason that she came to the CLIO.

Vital signs: Blood pressure 80/50 mmHg, heart rate 128, respiratory rate 28, Sp02: 92%.

Pale appearance of the skin, with diaphoresis, heart rate augmented. Abdomen with surgical wounds without dehiscence or bleeding, with drainage with hematic characteristics, in about 150 ml, with pain during deep palpation in mesogastrium.During the exploration we evidenced hematemesis in approximately 80 ml.

Two peripheric lines, and initiate management with crystalloid solutions. 3 PG y 3 PFC. She passed to the operating room to make an endoscopy. We found dehiscence of the gastro-jejunum anastomosis and jejunum jejunum anastomosis, and she passed to surgery. Bleeding: 1500 cc, transfusion 2 PG y 2 PFC. Surgical time: 7 hrs. She required management in ICU.Hospital stay in ICU 12days in UTI: Stayed in fast, with antibiotics (metronidazol + meropenem), And parenteral nutrition. She was discharged from ICU unit at day 12.

15/05/19 The central venous catheter was removed. 16/05/19 Finished the antibiotic treatment. Discharged from the hospital at day 20/05/19 without complications.

https://youtu.be/OxppG7iXrQ8

V-067

LAPAROSCOPIC REPAIR OF COMPLICATED INTERNAL HERNIA

Post-operative complications

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Background:

- Female 45-years-old
- Born And Rise In Mexico City
- Occupation Housewife
- Marital Status Single

Pathological Personal History:

- Chronic Diseases: Diabetes Mellitus Type 2
- Surgeries: Gastric Bypass (Roux Y) two Years Ago
- Allergies: Penicillin
- Transfusion Denied

Complementary Studies:

- Abdominal Ct scan With Mesenteric Swirl
- Height 1.55
- Initial Weight 92
- Actual Weight 62
- Actual BMI 25.81

History Of Present Illness:

Current condition started two days ago with abdominal pain in mesogastric colic, that increment with ambulation, with no tolerance to food or water.She auto medicated with not specified analgesic. She didn´t present pain relief so she came for valuation.

-Laboratories: Leu 14X103 Mm3, Hb 12 G/Dl, Hto 44%, Plaq 296X103 Mm3, Glucose 95 Mg/Dl, Tgo 26 Ui/L, Tgo 21 Ui/L, Ggt 33 Ui/L, Album 3.1G/Dl, Creat 1.1

We made exploratory laparoscopy.

Findings:

Complicated internal hernia Of Petersen's with reversible ischemic changes. She started the feeding at night after the surgery and was discharged the next day without complications. We need to perform an early and timely diagnosis to avoid severe complications in internal hernias, diagnostic laparoscopy is a useful tool to follow bariatric patients

https://youtu.be/y-J11E-vXto

V-068

LAPAROSCOPIC RETRIEVAL OF ESOPHAGEAL BEZOAR AFTER GASTRIC BAND

Post-operative complications

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Clinical Presentation and Indication for Surgery:

Bezoar are indigestible mass trapped into the gastrointestinal tract. The most common type is a phytobezoar (plant material such as fiber, vegetable, fruits). A less common type is a trichobezoar which is a hairball that results from chewing and swallowing hair. The most common location for bezoar is the stomach. There are only very few reported cases of esophageal trichobezoar, and the optimal management remains uncertain. In this video, we aim to share our experience with a patient diagnosed with an esophageal trichobezoar after laparoscopic band placement.

Preoperative Tests:

After numerous endoscopic attempts at retrieval of the esophageal trichobezoar, an extensive discussion with both the patient, the gastrointestinal team and the thoracic team occurred. A laparoscopic abdominal approach with gastrostomy for retrieval was deemed less invasive than a thoracic esophagostomy. Furthermore, the abdominal approach would enable us to release the gastric band, and thus assist with reduction of the trichobezoar, and minimize risks of recurrence.

Operative Procedure and Management:

First, an optical entry was performed with a 5 mm trocar. An additional two 5 mm and one 15 mm trocars were placed. The gastric band was removed. A gastrostomy was performed at the greater curvature of the stomach. In order to achieve adequate exposure of the Bezoar, the gastrostomy had to be significantly enlarged. This enabled us to evert the gastric mucosa and reach the gastroesophageal junction where the lower aspect of the bezoar was identified and grasped. By using a combination of pulling the Bezoar, peeling the gastric mucosa off the bezoar, and pushing with the endoscope, we were able to reduce the bezoar. The Bezoar had completely encroached into the esophageal mucosa, akin to an esophageal stent, highlighting the complexity of this case. The short gastric of the greater curvature adjacent to the gastrostomy site were ligated, and the gastrostomy was closed with an endoscopic stapler. A post-procedure endoscopy was performed to confirm an intact staple line, perform a leak test, and assess the integrity of the esophageal and gastric mucosa. The patient recovered very well, dysphagia resolved, and she was discharged on post-operative day 2.

Post-operative Outcome:

In the rare cases of esophageal trichobezoar after laparoscopic band placement, a laparoscopic abdominal approach with removal of the band and a generous gastrostomy at the greater curvature is a good option for reduction of the bezoar.

https://vimeo.com/721533961/7b094d22ab

V-069

LAPAROSCOPIC REVERSAL OF ROUX-Y GASTRIC BYPASS PRESERVING ITS RESTRICTION DUE TO REFRACTORY HYPOGLYCEMIA

Revisional surgery

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Introduction:

Postprandial hypoglycemia after Roux-en-Y gastric bypass (RYGB) is a rare complication that occurs after one year of surgery. It is characterized by neuroglycopenic symptoms 1-3 hours postprandial with concomitant low blood glucose (<50 mg / dL) and symptoms relieved by correction of hypoglycemia. Patients have normal fasting blood glucose, with a positive mixed meal test. The management of postprandial hypoglycemia includes nutritional, pharmacological, and surgical treatment. Most patients respond adequately to dietary measures.

Methods:

A 52-year-old male patient with a history of morbid obesity and type 2 diabetes, who underwent laparoscopic RYGB.

Patient consults due to tremor, agitation, sweating, blurred vision, confusion and temporal-spatial disorientation, 2-3 hours after meals, 3-4 times a week, with capillary blood glucose measurements of 26-50 mg / dl.

A fractional diet rich in protein and fiber is indicated, with 15-30 grams of low glycemic carbohydrates per meal for two months without response. Due to the persistence of the symptoms, pharmacological treatment with different schemes is indicated.

Due to refractory hypoglycemia, revision surgery of the gastric bypass is performed. The alimentary loop is sectioned 15 cm from the gastrojejunal anastomosis and the anastomosis of the alimentary loop proximal to the gastric remnant is performed. The biliary loop proximal to the entero anastomosis is sectioned. A new jejunal- jejunal anastomosis is performed.

Conclusions:

We found that the reversion of the gastric bypass to normal anatomy with preservation of the restrictive component by preserving the gastric pouch and the gastrojejunal anastomosis was effective and safe for the management of hypoglycemia refractory to medical treatment in our patient. However, since there is no consensus regarding the ideal surgical treatment, we consider that its choice will depend on the experience of the treating team.

https://www.youtube.com/watch?v=Z17Mqke3N2E&feature=youtu.be

V-070

LAPAROSCOPIC REVISION OF OPEN GASTRIC BYPASS WITH REMOVAL OF PREANASTOMOTIC RING

Revisional surgery

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Background:

There has been a growing need for revisional and reoperative Bariatric Surgery (BaS) to correct weight loss failure and weight regain. The reasons for failure include gastro-gastric fistula, dilated gastro-jejunal anastomosis, enlarged gastric pouch, and shortened bilio-pancreatic and alimentary limbs. Interventions performed include gastric pouch and gastro-jejunal anastomosis resizing as well as limb lengthening.

Methods:

We present the case of a 45-year-old female with history of open Roux-en-Y Gastric Bypass (RYGB) performed 17 years ago at an outside institution, persistent gastroesophageal reflux disease (GERD) complicated by Barret's esophagus, hiatal hernia refractory to medical therapy, and weight regain. We decided to perform revisional BaS using a laparoscopic approach. Upon entrance to the abdominal cavity, extensive adhesions in the midline were observed and taken down and the left lobe of the liver was detached from the stomach. After Identification of the right crus, reduction of the herniated stomach was performed. The gastric remnant and gastric pouch were separated and no gastro-gastric fistula was identified. A previously placed pre anastomotic ring was divided and removed, and the gastric pouch was trimmed. The biliopancreatic limb was re-anastomosed to the alimentary limb 160 cm distal to the gastrojejunostomy. The hiatal defect was closed with unidirectional barbed sutures.

Results:

The patient tolerated well the procedure and was discharged home on post-operative day 1 without any complications.

Conclusions:

The complication rates for revisional bariatric surgery to correct weight loss failure and weight regain are comparable to primary procedures while providing significant weight loss and comorbidity reduction.

https://vimeo.com/722711658/ddfe542732

V-071

LAPAROSCOPIC REVISION OF VERTICAL BANDED GASTROPLASTY TO NORMAL ANATOMY

Revisional surgery

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Introduction:

Vertical banded gastroplasty (VBG) involves dividing the fundus at the lesser curve of the stomach and creating a tubular gastric pouch. Rarely performed today, patients develop long term post-operative complications. VBG includes the placement of a silastic band around the distal portion of the divided stomach which has its own complications, including gastric mucosal irritation and ulcer formation due to poor gastric drainage from the pouch. VBG may require revisional surgery with options including: conversion to a gastric sleeve or Roux-en-Y gastric bypass, reversal back to normal anatomy, or gastrectomy.

Objectives:

1. Discuss the indications for reversal of VBG
2. Show how a combined robotics and endoscopic approach can improve visualization

Methods:

This case describes a patient who was diagnosed with chronic gastritis and a non-healing ulcer within the gastric pouch of the VBG leading to a critical upper GI bleed.

Results:

A 74-year-old male with a past medical history significant for upper GI bleed requiring multiple transfusions presented with recurrent upper GI bleed requiring ICU admission. He was known to have a vertical banded gastroplasty and multiple revisional surgeries. Upper endoscopy identified a large ulcer within the VBG pouch. In the ICU, the patient underwent embolization of his left gastric artery and two upper endoscopies to control the bleeding. Two surgical options were reviewed for treatment: conversion of the VBG to normal anatomy and subtotal gastrectomy. The patient decided on a robotic assisted laparoscopic conversion of VBG to normal anatomy. His anatomy was not amenable to either a gastric sleeve or a Roux-en-Y gastric bypass. The patient first underwent a laparoscopic gastrostomy. The VBG was reversed by placing one anvil of the Endo Stapler into the pouch, while the other anvil was placed into the excluded stomach. This required three staple loads and was done under laparoscopic and endoscopic visualization. The patient tolerated the procedure, underwent an upper GI series confirming normal anatomy, resumed a normal diet, and is six months out from surgery. Repeat endoscopy shows no gastric ulcers.

Conclusions:

VBG is associated with various complications of the GI tract including ulcer formation in the gastric pouch above the silastic band. The outcomes of this case suggest that laparoscopic revision of VBG to normal anatomy is a feasible procedure that can provide cure of formed gastric ulcers.

https://vimeo.com/596112476/755e4c0364

V-072

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS FOR OPEN FAILED VERTICAL BANDED GASTROPLASTY

Revisional surgery

M. Zakaria.

Ain Shams University, Cairo, Egypt.

Introduction:

Although the vertical banded gastroplasty (VBG) is effective in achieving weight loss without metabolic side effects during the first few years, late failures cause weight regain in about 20% of the patients. The laparoscopic Roux-en-Y gastric bypass (LRYGB) is the procedure of choice to convert a failed VBG

Objectives:

We aim to treat the patient's obesity.

Methods:

This is female patient, 45-year-old and BMI 51 kg/ M2. She had open vertical banded gastroplasty (VBG) seven years ago but she regained most of her weight. The LRYGB technique included the formation of a small gastric pouch and antecolic-antegastric Roux-en-Y reconstruction. A five-port technique was used. We divided the stomach above the mesh and at least 1 cm above the previous VBG stapling line and passed a 36-F bougie. A gastric pouch based on the lesser curve was created by the sequential deployment of a 60 mm. Endo GIA Universal Stapler (black Tri-Staple cartridge; A 150 cm biliopancreatic limb was measured, and the jejunum was divided with a 60 mm Endo GIA stapler (white cartridge). The mesentery was divided with a 5 mm advanced bipolar (Autosuture Division of Covidien, Plymouth, MN, United States). (and a gastrojejunal anastomosis was created with a 30 mm Endo GIA stapler (3.5 mm blue cartridge). The common stapling defect was closed over a nasogastric tube with two layers of 2–0 absorbable V-Loc sutures (Autosuture Division of Covidien, Plymouth, MN, United States). In a running fashion.

Results:

We converted the VBG into Roux-en-Y gastric bypass laparoscopically. Operative time was 145 minutes. Patient recovered smoothly. Patient discharged at the 2nd post-operative day. No post-operative complications. This patient lost 55 kg during the first 18 months post-operatively.

Conclusion:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) following an open VBG is technically challenging, but safe operation.

https://vimeo.com/596112983/f15f1494fe

V-073

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN SITUS INVERSUS TOTALIS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Roux-en-Y gastric bypass (RYGB) is an effective surgical intervention for morbid obesity and has an advantage over other bariatric operations for treatment of obesity-related comorbidities. Typically, this is a routine operation when performed in the hands of an experienced bariatric surgeon, but in the setting of situs inversus totalis, a rare condition that involves complete transposition of the abdominal and thoracic viscera, there are special operative considerations that must be made. Here we present the case of a 47-year-old gentleman with known situs inversus totalis who underwent a laparoscopic RYGB for obesity complicated by several medical comorbidities.

Objectives:

Assess the feasibility of a mirror-image Roux-en-Y gastric bypass for patients meeting bariatric surgery criteria with situs inversus totalis.

Methods:

The antecolic approach to a Roux-en-Y gastric bypass was performed in mirrored fashion.

Results:

The patient tolerated the procedure well with an uncomplicated hospital course.

Conclusion:

Mirror-image Roux-en-Y gastric bypass is feasible for patients who meet criteria for bariatric surgery with a history of situs inversus totalis.

https://vimeo.com/722713336/2b6af2a096

V-074

LAPAROSCOPIC RYGB TO SADI: TIPS & TRICKS

Revisional surgery

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Background:

Roux-en-Y gastric bypass (RYGB) is the second most common bariatric procedure in the US after sleeve gastrectomy (SG). Failure of RYGB, defined by inadequate weight loss or weight regain, may occur in up to 35% of the patients. In these cases, revisional surgery may be considered as a treatment alternative. The revisional procedures which have demonstrated the best long-term results are biliopancreatic diversion with duodenal switch (BPD/DS) and single anastomosis duodeno-ileal bypass (SADI).

Objective:

To reveal the technical aspects of a conversion of RYGB to a SADI.

Methods:

We present the case of a 37-years-old female patient with history of a conventional RYGB, who experienced gradual weight regain which interfered with her daily activities and deteriorated her quality of life. She was evaluated by a multidisciplinary team and the decision was made to perform a revision of the RYGB and conversion to SADI.

Results:

Surgery was performed without complications and the patient was discharged on post-operative day 2. On 3 months follow-up, the patient had lost 37 libres and her BMI was 44.6 kg/m2, representing a 35% excess weight loss.

Conclusion:

The increase in bariatric surgeries has led to an increase in revisional procedures. Conversion to SADI is one of the most effective interventions for failed RYGB. This intervention is challenging and requires knowledge of the technique, endoscopic management, and an orderly and methodical surgery. Patients should be treated within a multidisciplinary team in a referral center.

https://www.youtube.com/watch?v=9ihO2LWUkEE

V-075

LAPAROSCOPIC SLEEVE GASTRECTOMY WITH CONCOMITANT DIAPHRAGMATIC HERNIA REPAIR

Hernia surgery in the bariatric patient

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Background:

Congenital diaphragmatic hernias have an incidence of 1/3,000 live births. Margani hernia is the least common, representing 2-5% of congenital hernias. Up to 50% of patients are asymptomatic and their diagnosis is commonly an incidental finding in adulthood. In this type of hernia, the defect is found in an anterior and retrosternal location and up to 91% of are found on the right side, with only 5% found on the left side. Due to their potential risk of incarceration, diaphragmatic hernias must undergo repair.

We present the case of a 27-year-old obese female with BMI 46.8 kg/m2 with a history of asymptomatic Morgagni hernia coming for assessment for bariatric management. A laparoscopic sleeve gastrectomy with hernia repair was suggested. A chest CT scan was performed, reporting an anterior diaphragmatic defect of 8.4 cm in diameter with herniation of transverse colon, omentum and the gastric antrum. The laparoscopic procedure was performed, starting with de sleeve gastrectomy and finishing with and hernia mesh repair. The post-operative period the patient had a satisfactory course and she was discharged on post-operative day 2.

Being a rare and uncommon diagnosis in the general population, it is also not common to see obese patients with this condition undergoing a bariatric procedure. However, it is safe to perform a laparoscopic sleeve gastrectomy with a concomitant hernia repair with mesh.

https://vimeo.com/722717294/dea60370d2

V-076

LAPAROSCOPIC STENT REMOVAL AND CONVERSION OF SLEEVE GASTRECTOMY TO ROUX-EN-Y GASTRIC BYPASS FOR ACUTE GASTRIC LEAK

Post-operative complications

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Background:

A 38-year-old female, no comorbidities, BMI: 41 kg/m2, who was selected for a sleeve gastrectomy according to our protocol. On the fourth day, evolves with abdominal pain and fever and an abdominal collection on CT. Laparoscopic drainage was performed. Presented torpid evolution and a contrasted seriography was performed where an abdominal collection and a stricture in the middle third of the stomach were evidenced, so the placement of an endoscopic coated stent was decided.

Due to the torpid evolution, a new seriography and a CT scan were performed, which showed the stent slippage, so it was decided to perform an exploratory laparoscopy with the presumptive diagnosis of a functional structure vs. an occlusion caused by the stent. All this in the context of the covid-19 pandemic with the patient in Uruguay with country entry restrictions and requiring an express Presidence´s special entry permit for an Argentine surgeon for humanitarian reasons.

Objectives:

To perform the stent removal and gastric sleeve conversion to en Roux-en-Y gastric bypass with an active gastric leak.

Methods:

An exploratory laparoscopy, gastric tube exposition, extraction of the covered stent, antrectomy and Roux-en-Y reconstruction were performed. The leak was exposed without closing it. Gastroenterostomy and enteroenterostomy were performed with linear cutting stapler, leaving a 120 cm alimentary limb and an 80 cm biliary limb. The leak was drained with two Jackson-Pratt drains placed in front and back side of the gastroenterostomy.

Results:

The patient presented a good evolution, with a seriography at 24 hours that showed normal intestinal transit, with the active leak well directed to the drains, good tolerance to liquids and progression to solids, discharged at 5th post-operative day. The drains were removed without debit at 21 and 35 post-operative days. At 6th month, presented a BMI of 25,1 kg/m2, normal feeding progression and a seriography showing good anastomotic passage without active leak, with normal blood parameters.

Conclusion:

With an experienced surgical team, it was possible to perform laparoscopically the stent removal and the conversion of the sleeve gastrectomy to a Roux-en-Y gastric bypass with good results and minimally invasive for the patient.

https://vimeo.com/720876554/deb124b0d5

V-077

LAPAROSCOPIC SUBTOTAL GASTRECTOMY WITH CONVERSION OF A COMPLICATED DUODENAL SWITCH TO ROUX-EN-Y GASTRIC BYPASS

Revisional surgery

D. Sprando, S. Abunnaja, B. Reed, N. Szoka, L. Tabone.

Department of Surgery, West Virginia University, Morgantown, United States.

Background/Introduction:

We present a case of a 60 year-old female with a prior history of a laparoscopic duodenal switch for super obesity. Despite excellent weight loss results the patient developed severe chronic diarrhea resulting in dehydration and hypokalemia. This failed to respond to dietary modification or medications, requiring frequent IV fluid and potassium infusions. The surgeon that performed the index operation then revised the operation by adding a Braun enteroenterostomy 50 cm proximal to the ileoileal anastomosis in an attempt to lengthen her common channel. However, this failed to resolve her symptoms. In addition, she presented with symptoms of gastroesophageal reflux, chronic nausea, and vomiting. Upon initial evaluation with an upper GI study, the patient was found to have a narrowing of the incisura and a redundant gastric fundus. Esophagogastroduodenoscopy demonstrated findings of Barrett's esophagus, confirmed by biopsy. The patient's nutritional status was optimized, and a preoperative plan was developed to address both the anatomical deformity of the sleeve as well as the excessive malabsorption.

Objectives:

Our goal of therapy was to alleviate both her malabsorptive as well as her upper GI obstructive symptoms.

Methods:

The objectives were accomplished via conversion to a roux-en-y gastric bypass with an optimized pouch, resecting the narrowed distal stomach and the part of the prior roux limb proximal to the Braun enteroenterostomy. The common channel was then lengthened via a new a jejunal-jejunal anastomosis creation with a new roux limb and short biliary pancreatic limb.

Results:

The patient recovered well. Her quality of life has significantly improved with complete resolution of diarrhea, hypokalemia and GERD symptoms.

Conclusion:

Conversion to roux-en-y gastric bypass can effectively relieve obstructive symptoms secondary to sleeve gastrectomy deformity. Severe malabsorptive issues with duodenal switch can be effectively managed via lengthening the common channel. Management of Such complex cases requires not only familiarity with the challenging anatomic variants, but also technical ability to affect resolution.

https://vimeo.com/722726005/23f531fc56

V-078

LAPAROSCOPIC TRANSGASTRIC RESECTION OF A BENIGN GASTROESOPHAGEAL JUNCTION TUMOR IN A PATIENT WITH SEVERE OBESITY

GERD and bariatric surgery

D. Moffat, K. Jain-Spangler.

Duke University Health System, Durham, United States.

Background:

The prevalence of obesity and severe obesity have been increasing globally, with the prevalence of severe obesity in the United States approaching 10% of the adult population. Often associated with obesity, gastroesophageal reflux (GER) can be both an indication for bariatric surgery and a side effect of certain procedures. Evaluating the severely obese patient with associated GER should proceed in a stepwise fashion to ensure the correct procedure is selected. An infrequently documented cause of GER, tumors of the gastroesophageal junction (GEJ) can be a predisposing factor to the development of GER and warrant special consideration. Laparoscopic transgastric techniques have become a viable approach to resect GEJ tumors with organ preservation and limited morbidity. There is little guidance regarding the optimal management of GEJ tumors in patients with severe obesity.

Objectives:

This case highlights the need for a stepwise approach to safely resect GEJ tumors, while not precluding the potential for future bariatric surgery.

Methods:

We present the case of a young female with class III obesity and Cowden syndrome who was referred to our clinic with refractory GER in the setting of a GEJ mass. Endoscopic ultrasound findings were consistent with a submucosal lipoma. Preoperative evaluation consisted of pH probe and esophageal manometry, in addition to our standard multidisciplinary bariatric evaluation. She underwent laparoscopic transgastric resection of the GEJ junction lipoma followed by sleeve gastrectomy in a staged manner.

Results:

After confirming the location of the submucosal tumor endoscopically, trans-fascial stay sutures were placed along the greater curvature of the stomach. One 5 mm and one 12 mm trocar were introduced into the gastric lumen. The endoscope was used to retract the mass and stent open the GEJ during intraluminal stapling. The specimen was removed via the mouth and the gastrotomies were resected, avoiding the use of staple line reinforcement material. The patient had complete resolution of her GER post-operatively. She then underwent sleeve gastrectomy, during which the location of the previous mass resection appeared well healed endoscopically.

Conclusion:

We report the successful transgastric resection of a GEJ lipoma in a patient with class III obesity in need of bariatric surgery. The proposed technique allows for organ preservation and minimizes the risks of future bariatric procedures.

https://vimeo.com/722737876/220a489282

V-079

LAPAROSCOPIC VERTICAL BANDING GASTROPLASTY REVERSAL

Revisional surgery

H. Alshurafa.

Consultant Laparoscopic and Bariatric Surgeon, Prince Sultan Military Medical City, King Abdulaziz, Riyadh, Saudi Arabia.

Introduction:

VBG reversal is one of the revision method for VBG specially recommended for the old age with complications and/or massive weight loss.

Objective:

Showing the simple techniques of laparoscopic VBG reversal.

Methods:

A 66-year-old female patient status post VBG before 14 years. She presented with recurrent episodes of stomal obstruction with symptoms and signs of reflux failed to be treated by PPI. She presented with BMI of 21 Kg/m2 and insisting for complete reversal. The patient was thoroughly investigate them operated by laparoscopic transgastric reversal by gastro-gastrostomy. The techniques will be showed in the video.

Results:

The procedure time was 32 minutes with uneventful post-operative course.

Conclusion:

Laparoscopic reversal of VBG is safe and feasible as well as with easier technical approach.

https://vimeo.com/722741596/ff0613709c

V-080

LAPAROSCOPIC VERTICAL CLIP GASTROPLASTY FOR THE TREATMENT OF WEIGHT REGAIN AFTER ENDOSCOPIC SLEEVE GASTROPLASTY

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Endoscopic Sleeve gastroplasty (ESG) is an endoluminal, minimally invasive, safe and effective procedure that involves remodeling of the greater curvature using the Apollo OverStitch device in an effort to reduce gastric capacity and delay gastric emptying. However, suture´s dehiscence has been reported. With loss of suture´s tension, there is a decrease in the restrictive effect and weight regain is feasible. Since obesity is a chronic condition, it is necessary to provide continuous treatment to those patients with weight regain after ESG and Laparoscopic Vertical Clip Gastroplasty (LVCG) has recently become an option to this purpose.

Objective:

To demonstrate that LVCG is safe, effective and may be used to continue obesity treatment in patients with weight regain after endoscopic procedures such as ESG.

Methods:

27-year-old female with bilateral knee arthrosis, submitted to ESG in February-2018, with initial Body Mass Index (BMI) 33.98 kg/m2. In the first 12 months after ESG, she lost 25% of her total body weight (%TBW), achieving a minimum BMI of 25 kg/m2 in January/2019. Unfortunately, at the January/2020 follow-up consultation, she had a BMI of 35.15 kg/m2. She had lost psychological and nutritional surveillance. In the complementary investigation of weight regain, upper digestive endoscopy was performed, showing total dehiscence of gastric sutures, as well as a normal volume and shape stomach, with mild erosive gastritis of the antrum. The patient asked for a new obesity treatment, but refused bariatric irreversible procedures using staplers and/or creating anastomoses due to the risk of fistula or bleeding. Then, LVCG was indicated. The procedure took place in January/2020. The Bariatric Endoscopy and Bariatric Surgery team worked together, in order to place the clip under simultaneous laparoscopic and endoscopic vision. There were no intraoperative complications or technical difficulties and the patient was discharged on the first post-operative day.

Results:

There were no immediate or late post-operative complications. In January/2021, she was 68 kg, had eliminated 24,4%TBW and remained asymptomatic.

Conclusions:

LVCG seems to be a safe, reversible, efficient and minimally invasive technique that may be used to provide continuous obesity treatment to patients with no indication or no acceptance of Bariatric irreversible surgical techniques.

https://vimeo.com/596113041/c09faee7c7

V-081

MANAGEMENT OF AN ADJUSTABLE GASTRIC BAND EROSION IN A PREGNANT PATIENT

Adjustable gastric banding

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Introduction:

This video presents a complex case of an eroded adjustable gastric band in a 25-week pregnant patient whose presentation in the emergency department was cellulitis over her port site.

Objectives:

To present our management of an eroded band where we felt an endoscopic transoral approach was not an option when she presented to the ED with cellulitis over her port site.

Methods:

An upper endoscopy showed that only 25% of the band had eroded into the stomach which did not include the buckle of the band. A two stage approach was undertaken where the infected port was first removed and then the patient was followed until after her full-term healthy baby was delivered at which time the second stage was performed 3 months postpartum.

Results:

The band was successfully removed at a later date instead of risking an intra-abdominal infection when the patient presented at 25 weeks pregnant with an infected port. A laparoscopic approach where the stomach distal to the inflammatory mass that involved the eroded band and stomach, was opened and the band was retrieved intraluminally and then the stomach was easily stapled closed.

Conclusion:

This case highlights the importance of performing an upper endoscopy when a patient presents with a port site infection to rule out an erosion of the gastric band.

https://vimeo.com/720846181/0ced2bb4ff

V-082

MANAGEMENT OF BOUGIE INDUCED ESOPHAGEAL INJURY DURING SLEEVE GASTRECTOMY

Sleeve gastrectomy

D. Bed.

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Clinical Presentation and Indication for Surgery:

A 36 y/o female patient having BMI of 40.2 kg/m2 was posted for Laparoscopic Sleeve gastrectomy (LSG).

Operative Procedure:

After an omentectomy attempt to introduce the bougie across gastroesophageal junction, for calibration of sleeve, failed. After multiple attempts it could be negotiated into the stomach and LSG was completed uneventfully. On the first post-operative day the patient tolerated liquids well. On the second post-operative day the patient was asymptomatic but had tachycardia of 120/min. Patient was taken for oral contrast CT Scan which showed leakage of contrast into the mediastinum.

Patient was taken into OR and laparoscopy done which showed perforation of lower esophageal end. It was repaired with 2-0 Vicryl interrupted sutures. Large bore drain was kept. On 2nd post-op day the drain showed presence of saliva in it and methylene blue was positive for leak.

Post-operative Outcome:

Patient then underwent endoscopic fully coated stent placement. It was removed after 4 weeks and the site of the leak had completely healed.

https://youtu.be/uxVSmdPePls

V-083

MANAGEMENT OF GERD AFTER SLEEVE GASTRECTOMY: FROM ENDOSCOPY TO SURGERY

GERD and bariatric surgery

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Background:

Sleeve gastrectomy is the most common procedure in the US, estimates indicate it accounted for 61.4% of the bariatric procedures in 2018. Gastroesophageal reflux disease (GERD) is present in up to 70% of obese patients, and 45% of patients who undergo sleeve gastrectomy. Studies report variable rates of worsening and persistence of GERD after sleeve gastrectomy, and "de novo" GERD has been described. There are several management alternatives to treat GERD in a patient with a sleeve gastrectomy. These may be either endoscopic or surgical.

Objective:

To exhibit the alternatives in the management of GERD in a patient with a sleeve gastrectomy, as well as presenting our management algorithm.

Methods:

We present some of the most relevant options to treat GERD after sleeve gastrectomy. These include: pyloromyotomy, non-ablative radiofrequency, magnetic sphincter augmentation, ligamentum teres fundoplication, hiatal hernia repair, and conversion to Roux-en-Y gastric bypass.

Results:

All procedures are successful in treating this pathology, although results are variable.

Conclusion:

There is a lack of uniformity in assessing GERD pre bariatric surgery. Studies on GERD and sleeve gastrectomy are contradictory, hence this bariatric procedure should be unadvised in patients with diagnosed GERD. The indication of a procedure to treat GERD after sleeve gastrectomy is not standardised. If proton pump inhibitors fail to control the symptoms, pertinent tests should be conducted to assess the severity of GERD, and coexistence of hiatal hernia or other anatomical abnormality. If endoscopic or surgical procedures directed to treat GERD fail to succeed, conversion to Roux-en-Y gastric bypass is the most suitable alternative.

https://www.youtube.com/watch?v=DQgz__O4VdE

V-084

MANAGEMENT OF LEAK AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY USING COMBINED ENDOSCOPIC AND LAPAROSCOPIC INSERTION OF T-TUBE

Endoscopic and percutaneous interventional procedures

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Background:

The incidence of leak after laparoscopic sleeve gastrectomy are reported as 1-3%. Such a complication is often associated with a prolonged hospital stay, malnutrition and poor quality of life. Various management options have been proposed including stenting, oversewing, endoscopic clipping and conversion to bypass, all with variable success rates. In this video we describe a case of a proximal sleeve leak managed with a combined laparoscopic and endoscopic insertion of a T-tube.

Objective:

To demonstrate the technical aspects of laparoscopic drainage of a collection caused by a leak after a sleeve gastrectomy, followed by insertion of a T-tube.

Methods:

Retrospective review of a patient who presented with a leak following a sleeve gastrectomy. The video describes the primary procedure, presentation following the leak and the management.

Results:

A 37-year-old female underwent an unremarkable laparoscopic sleeve gastrectomy in September 2016. Her initial BMI was 48.3 (weight 120.8 kg) with her only other comorbidities as hypothyroidism. A 36F calibrating tube was used, with the resection starting 4 cm from the pylorus. The staple line was buttressed with Seamguard through its entire length. Methylene blue leak test was negative. She was discharged on post-operative day two without any concerns.

However, 25 days later she presented with diarrhea and vomiting with mild epigastric tenderness and normal observations. The CRP was 150 and WCC 12. A subsequent CT demonstrated a perigastric collection with free air bubbles. A contrast swallow confirmed the leak close to the upper part of the sleeve. In the same re-admission she returned to theatre for a washout of the peri-gastric collection, and insertion of a T-tube as a combined endoscopic/ laparoscopic procedure. She was started on free fluids after a contrast swallow 2 weeks later showed no leak around the clamped T-tube. At 5 weeks the T-tube was removed in the outpatient clinic. Follow up at 42 months demonstrated the patient was symptom free, with no evidence of reflux, and a weight of 62.7 kg. This represents one of seven leaks we have managed in this way following 628 sleeve gastrectomies over 4 years.

Conclusion:

The combined laparoscopic and endoscopic insertion of T-tube as a method to manage leaks after sleeve gastrectomy is a safe and effective tool. By converting a leak into a controlled fistula, the patient is able to return to an oral diet quickly and so reduces the hospital stay.

https://vimeo.com/722753606/82b569504e

V-085

MARGINAL ULCER AFTER GASTROJEJUNAL BYPASS: PLAYING RUSSIAN ROULETTE WITH TOBACCO

Revisional surgery

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Introduction:

A common post-operative complication after laparoscopic Roux-Y gastric bypass (LRYGB) is the development of marginal ulcers (MU) in the gastrojejunal anastomosis. Several risk factors, such as smoking, seem to have an impact on the development of MU.

Objective:

To present the case of laparoscopic revisional bariatric surgery in a patient with MU after LRYGB associated with smoking.

Method:

A 43-years-old woman with LRYGB in September 2010. In April 2015 she began with epigastric pain without improvement with different lines of proton pump inhibitors. She kept on smoking after surgery until January 2019. Supplementary tests: Endoscopy July 2015: Erosive gastritis biopsies: Erosive Acute Gastritis. Helicobacter pylori. She began eradication therapy with omeprazole+clarithromycin+amoxicillin. The post-treatment test was negative. Endoscopy, April 2018: Jejunal ulcer Forrest III Biopsy: Intestinal metaplasia and chronic inflammation. Gastric postsurgical changes. Erosive gastropathy. The symptoms persist. Endoscopy May 2019: Mucosal transition and hiatus at the level Z line without injuries. Stomach: gastric pouch without alterations. Anastomosis without alterations. Progress by jejunal loop showed a flat jejunal ulcer of about 15 mm, biopsies were taken from the edge of the ulcer. Biopsy: Persistence of jejunal ulcer. P.A: Mild, nonspecific chronic inflammation. There was no villous atrophy or increased intraepithelial lymphocytes. Abdomino-pelvic CT March 2019:

Result:

No significant alterations. Neuroendocrine study July 2019: normal. Octreoscan: October 2019: Study within normal limits. PH-Metry with treatment: adequate esophageal acid inhibition. inadequate gastric acid inhibition. High-resolution manometry: Esophageal motility ineffective, with a small separation between the diaphragmatic imprint and 2.3 cm lower esophageal sphincter.

Gastrointestinal transit (GIT) to assess gastric pouch´s size before revisional surgery.

Intervention: laparoscopy revisional surgery with resection of anastomosis, new gastrojejunal anastomosis + trunk vagotomy.

Post-Operative: without complications

Conclusions:

Most MU occur within the first post-operative year. Smoking is an independent and statistically significant predictor of the development of MU with a 4.6 times higher risk regardless of the degree of smoking. MU is one of the most important and frequent complications, therefore, it should be recommended to quit smoking before surgery.

https://youtu.be/7tZN8fbPLO4

V-086

MINILAPAROSCOPIC SLEEVE GASTRECTOMY VIRTUALLY WITH NO SCARS

Sleeve plus

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[1]Obesity El Salvador, San Salvador, El Salvador; [2]IMSS, Guadalajara, México.

Background:

Minilaparoscopy has made its way for quite a few years now demonstrating it can be applied to most of the cases that we routinely use conventional laparoscopy such as cholecystectomies, hernia surgery, appendectomies, etc. It is a safe bet in any procedure and the aesthetics represent a plus-benefit and a very appealing option among patients undergoing any kind of procedure and in particular weight loss surgeries.

Methods:

23-year-old female without comorbidities with a BMI of 38m2/ kg who was very concerned about her post op scars. After routine labs and exams were completed, the patient was scheduled for a Sleeve Gastrectomy using the Minilaparoscopic approach. Surgery took 75 minutes with minimal blood loss and no complications. The patient was discharged on post-operative day 2 and scheduled for follow up on 5 days later.

Conclusion:

Even weight loss surgeries can be performed with a minilaparoscopic approach, some may worry about the extraction of the stomach removed but it can be done well using the technique shown. The most important aspects are the patients BMI (preferable under 40m2/kg) and the thickness of their belly fatty tissue (the less thick the better); so, with patients that meet these criteria we consider a safe approach for sleeve gastrectomies

https://vimeo.com/722994798/6d15f97ecb

V-087

MODIFIED TECHNIQUE OF LAPAROSCOPIC MINI-GASTRIC BYPASS- HOW I DO IT

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Clinical Presentation and Indication for Surgery:

Laparoscopic Mini Gastric Bypass (MGB-OAGB) is a novel technique for weight loss in Bariatric Surgery.I would like to show this modified technique here with hitching of biliopancreatic limb which will impact a greater weight loss and help to reduce bile reflux as well.

https://vimeo.com/720865625/6677b4a03b

V-088

NATURAL ORIFICE TRANSLUMINAL ENDOSCOPIC ONE-ANASTOMOSIS GASTRIC BYPASS: A FEASIBILITY STUDY USING PORCINE MODEL

Emergent technology, new nonstandard and bariatric surgery

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Introduction/Objectives:

Endoscopic bariatric therapies (EBT) are emerging as effective therapies in the management of overweight patient with or without metabolic syndrome. Unfortunately, most procedures only restrict the gastric volume without altering the underlying metabolism which is seen in surgical patients. The aim of this study was to investigate the feasibility and limitations of a natural orifice trans-luminal endoscopic surgery (NOTES) one anastomosis gastric bypass (OAGB).

Methods:

NOTES OAGB was performed in 3 porcine models. The steps of the procedure can be divided as follows:

1. Endoscopic sleeve gastroplasty
2. Trans-gastric access to peritoneal cavity
3. Identification of a loop of jejunum
4. Introduction of the jejunal loop into the stomach
5. Creation of the gastro-jejunostomy with lumen-apposing metal stent (LAMS)
6. Closure of gastric pylorus with overstitch system

Results:

All the animals underwent successful NOTES of OAGB. The mean weight for the animals was 34.3 kg (32-37 kg). The mean procedure time was 250 minutes (300 minutes for first animal and 180 minutes for third animal). The average bypassed biliopancreatic limb was 98 cm (range 65 cm to 130 cm).

Conclusions:

This study has provided proof-of-principle in a preclinical model that a NOTES approach can be used to perform OAGB and, therefore, merits additional evaluation and consideration.

https://youtu.be/m0_re8ActKM

V-089

NECROSIS OF CANDY CANE IN LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: AN UNUSUAL COMPLICATION

Post-operative complications

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Background:

Female

Age: 43 yrs

BMI: 47.87 Kg/m2

Comorbidities: Hypertension, hypothyroidism, insulin resistance, obstructive sleep apnea syndrome

Methods:

Laparoscopic Roux-en-Y gastric bypass with long biliopancreatic limb, was made, without any complication. 200 cm Biliopancreatic limb. 50 cm Alimentary limb.

The hospital discharge was without any complication, tolerating liquid diet, with serohematic discharge at the drainage, 9 ml, with the following vital signs: HR 103, RR 18, BP 126/80, T 37.6ºC.

After a week of surgery, readmits with the presence of purulent material through the drain, Signs of sepsis. abdominal pain, which started suddenly, with a great intensity, at meso and epigastrium, with 5 episodes of vomiting, which comes accompanied with general discomfort, this being the reason that she came to us.

Vital signs: Blood pressure 80/50 mmHg, heart rate 124, respiratory rate 28, Sp02: 87%.

Laboratory: Leu 19.2 x103mm3, Hb 14 g/dl, Hto 43 %, Plaq 150, Glucosa 140 mg/dl , TGO 22 UI/L, TGP 16 UI/L , GGT 33 UI/L, Alb 3.4 g/dl Creat 0.9

We made a revisional surgery.

Results:

Necrosis of candy cane, abdominal sepsis

She required management in ICU. Hospital stay in UTI. Stayed in fast, with antibiotics (metronidazol + meropenem), And enteral nutrition for gastrostomy. She was discharged from ICU unit at day 5.

Finished the antibiotic treatment. Discharged from the hospital at day 14 without complications.

https://youtu.be/TKS2lqO44KA

V-090

OBESITY AND ACHALASIA: CHALLENGES IN DIAGNOSING AND TREATING

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Achalasia and obesity are rarely found concomitantly, making it hard to properly diagnose. Considering esophageal dysmotility and dietary disorders, weight gain is rare in patients with achalasia. Complaints such as dyspepsia and dysphagia resulting from esophageal disorder can be erroneously overlooked whereas these complaints are also common in patients with obesity. Surgical approach must address the solution of all the dysfunction simultaneously since disconnected interventions can cancel the benefit of each other. We report a case of a patient with obesity, difficult achalasia diagnosis and excellent clinical outcome with syncrone surgical approach of Roux-en-Y gastric bypass (RYGB) and Heller myotomy. 33 year-old female patient, 41.2 BMI, presents dysphagia and dyspepsia with previous gastroesophageal reflux disease diagnosis. Considering her 5 points in Eckardt scale, the esophageal manometry result and the radiography imaging of esophagus and stomach with contrast the patient was diagnosed with achalasia. Given the previous literature, we chose to perform a Roux-en-Y gastric bypass and a esophageal Heller myotomy in a single laparoscopic surgery. The patient successfully lowered her BMI and does not present any other symptoms. We suggest that patients with achalasia and obesity may be managed with a single surgical intervention including Heller myotomy and RYGB. Symptoms suggesting achalasia must be evaluated even in patients with obesity. The diagnosis can require esophageal manometry and radiography with oral contrast. The diagnosis and surgical treatment of concomitant achalasia and obesity is complex and must be preceded by a qualified medical team.

https://vimeo.com/720834993/8dd2eafdb2

V-091

OBSTRUCTING GASTRIC BEZOAR IN PATIENT WITH HISTORY OF ROUX-EN-Y GASTRIC BYPASS

Robotic bariatric surgery

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Background/Introduction:

A 61-year-old female with a history of a Roux-en-Y gastric bypass and subsequent revision presented to the emergency center with 6-week history of nausea, vomiting, and abdominal pain exacerbated with intake. CT imaging and upper endoscopy demonstrated a large bezoar in the gastric pouch with obstruction of the gastrojejunal anastomosis. After two failed attempts at endoscopic removal, surgical exploration was required.

Objective:

Demonstrate a robotic-assisted, laparoscopic approach for the removal of a gastric bezoar in a patient with history of Roux-en-Y gastric bypass.

Methods:

A robotic approach was utilized to access the gastric pouch for bezoar extraction. The pouch was opened along the lateral aspect and the mass extracted in a piecemeal fashion. Standard, two-layer closure of the stomach with a barbed, absorbable suture was performed. Upper endoscopy along with intra-operative leak testing verified closure of the gastrotomy and patency of the gastrojejunal anastomosis.

Results:

Successful removal of the gastric bezoar in a patient with history of gastric bypass was performed utilizing robotic-assisted, laparoscopic technique. The patient ultimately recovered well without any further complications.

Conclusion:

Gastric bezoars result from the accumulation of indigestible material within the stomach lumen. In patients with history of Roux-en-Y gastric bypass, this may lead to further complications of anastomotic obstruction. Robotic-assisted surgical approaches are a viable option to remove bezoars in this patient subset.

https://vimeo.com/720863498/e9807b704b

V-092

OMENTAL PATCH IS STILL AN OPTION AFTER EARLY SLEEVE GASTRECTOMY LEAKAGE

Endoscopic and percutaneous interventional procedures

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Obesity El Salvador, San Salvador, El Salvador.

Background:

The omental patch is a surgery technique used in hollow viscus perforation, mostly of stomach and duodenum.

In this video, we present a case report, of a 29 years old female, with BMI of 35.4 kg/m2, who went into surgery for sleeve gastrectomy, the procedure was performed in our institution, and it is supposed without eventualities. 4 days after surgery she returned to our clinic with abdominal pain, fever, and tachycardia, HR 130pm, GB 17,200 N 79%, PCR 165 mg/dL. Due to dramatic clinical presentation, we decided to prepare for a diagnostic laparoscopy. A gastric leakage with no exposure of gastric mucosa was found, we decided to perform a free tension omental patch. She started to take liquid diet 48 hours after the procedure. The evolution of the patient was satisfactory and no further complications were reported.

Omental patch could be an option for some selective patients with leak after sleeve gastrectomy, especially, during the first 4 days after surgery, with no exposed mucosa, and no distal narrow of the sleeve.

https://vimeo.com/722995809/a9f803e7dd

V-093

PARTIAL (PROXIMAL) REVISION OF ROUX EN Y GASTRIC BYPASS WITH RESECTION OF CANDY CANE FOR EXCESS WEIGHT LOSS AND MALNUTRITION

Revisional surgery

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Introduction:

The patient is a 54-year-old lady, previous diabetic with a pre operative weight of 132 kg and BMI 42 who underwent a Roux-en-Y gastric bypass 5 years ago in another country. Initial few years, she had a satisfactory weight loss with complete reversal of comorbidities. But gradually developed intolerance of meals and recurrent regurgitation of food and liquids over the last 2 years.Patient presented to us in a significantly malnourished state with a weight of only 48 kg. Her Hb % was 6.5g/dl with low serum iron and serum VitD3. Her Liver Enzymes were normal except low total protein and Albumin. Upper GI Endoscopy demonstrated a dilated Gastric pouch with a candy cane with food particles and narrowing at Gastro-Jejunal anastomosis due to fixed twisting (Probably secondary to adhesions) with difficulty in passing scope freely into the Alimentary limb. The Contrast CT with 3D reconstruction confirmed the above findings with significant oral contrast reflux upon drinking with only a limited amount of liquid being passed through the anastomosis. The distal anastomosis and the rest of the abdomen were normal on CT. Patient was admitted and was further assessed by other specialists including Endocrinologist and Nutritionists. She was started on parenteral nutrition and correction of other parameters were done over a 10-day period. She also required transfusion of 4 units of blood during this period. After discussion with patient and her family at length, it was decided to partially revise the operation with a proximal Gastro-Gastrostomy with resection of candy cane.

Method:

Patient underwent a revisional surgery as demonstrated in the video. Unlike other post bariatric patients, we didn't commence oral feeding immediately but continued parenteral nutrition for further 2 days. On 3rd post-operative day, a contrast study was performed which confirmed satisfactory passage of contrast without and hold ups or leakages. She discharged home on the 5th post-operative day.

Results:

Patients recovery at home was uneventful except a minor respiratory tract infection. She gradually gained weight and strength with dietary advice from a nutritionist, and her post six months weight was 66 kg with much improved nutritional parameters. Her HbA1c remained around 5.5, she continued on Vitamin and mineral supplements as prescribed.

Conclusion:

Laparoscopic Partial revision of a Roux-en-Y Gastric bypass is a feasible and a safe option with good outcomes in a patient.

https://vimeo.com/722998352/d2928f888b

V-094

PERFORACIÓN GÁSTRICA ASOCIADA A BALÓN INTRAGÁSTRICO

Post-operative complications

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Introducción/Background:

Durante al menos 20 años el balón intragástrico (BIG) ha sido utilizado en el tratamiento de pacientes obesos. A pesar de ser un procedimiento seguro pueden presentarse complicaciones graves como la perforación gástrica, la cual puede aparecer tanto en el postoperatorio mediato como tardío. Presentamos un caso de una paciente que curso con una perforación gástrica secundaria a la colocación de un BIG.

Paciente femenino de 28 años con antecedentes de obesidad tipo III con IMC 41 kg/m2, tabaquismo, consumo de drogas e instalación de BIG hace 15 días. Consulta en urgencia por cuadro de 1 día de evolución de dolor abdominal de gran intensidad asociado a vómitos. Ingresa taquicardia, normotensa, afebril y sin disnea. Al examen se encuentra hidratada, bien perfundida con abdomen distendido, blando y sensible a la palpación de forma generalizada. En el laboratorio destacan los parámetros inflamatorios elevados. Se realiza un TC de abdomen y pelvis con contraste evidenciándose el estómago de pared fina con BIG de 450 ml. Aumento de la densidad del tejido adiposo perigástrico asociado a moderado hidro neumoperitoneo y signos sugerentes de perforación gástrica. Se realiza laparoscopía exploradora evidenciando abundante líquido libre turbio y fibrina asociada a solución de continuidad de pared anterior gástrica circunferencial de 5 mm, a través de la cual protruye la válvula del BIG inflado. Se toma cultivo de líquido peritoneal. Se realiza aspiración controlada de contenido de BIG, ampliación de perforación con hook y extracción de balón de la cavidad gástrica. Aseo de cavidad peritoneal, gastrorrafia con puntos totales separados de monocryl 3-0 en 2 planos y se refuerza con parche de epiplón. Finalmente se retira balón en bolsa y se deja un drenaje perigástrico. Paciente evoluciona favorablemente sin compromiso hemodinámico y con normalización de parámetros inflamatorios. Se inicia régimen liquido al 1° día postoperatorio con buena tolerancia. Al 5° día se retira drenaje y es dada de alta con tratamiento antibiótico oral e inhibidores de la bomba de protones. Al control de las 2 semanas el paciente se encuentra con evolución esperable sin complicaciones.

Conclusión:

La perforación gástrica secundario a un BIG es una entidad de poca frecuencia. Los pacientes que son sometidos a la instalación de un BIG, deben ser educados respecto a estas complicaciones y la adherencia a las indicaciones del equipo quirúrgico.

https://vimeo.com/723000739/24dae7664d

V-095

PERFORATED ULCER IN THE EXCLUDED STOMACH: A RARE AND DANGEROUS CONDITION

Post-operative complications

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Background:

Perforated peptic ulcer disease in the excluded stomach after Roux-en-Y gastric bypass (RYGB) is rare, with fewer than 50 cases published. (1, 2)

Several mechanisms have been proposed to explain the pathophysiology, including Helicobacter pylori, smoking, and alcohol consumption. (2, 3) The anatomical changes post-RYGB will lead to a different clinical presentation; for instance, pneumoperitoneum is usually absent on radiographs because swallowed air goes through the gastrojejunostomy. (1, 4) This could potentially delay diagnosis leading to fatal results. (1, 5) Most patients with this disease will present with signs of sepsis, and immediate exploration is required in unstable patients. (1) Closure of the ulcer with a suture or an omental patch is critical. (2) In addition, resection of the bypassed stomach has been proposed as a definite treatment. (1) Nonetheless, the particular risks associated with gastrectomy should be considered. (1, 2)

Objectives:

Describe our experience managing a perforated ulcer in the excluded stomach after RYGB.

Methods:

We present the case of a 48-year-old female who underwent an RYGB in 2007 due to obesity. Unfortunately, after reaching her ideal weight, she stopped going to nutritional controls and returned to consuming alcohol and smoking. She presented to the ER with a sudden onset of severe epigastric pain and fever. On clinical examination, a tachycardic patient with abdominal tenderness was discovered. Additional exams revealed leukocytosis and an elevated C-reactive protein. Imaging tests unveiled free liquid in the abdomen and areas of inflammation around the gastric bypass.

Results:

On laparoscopy, a 1 x 0.8 cm perforated ulcer was discovered on the excluded antrum, along with 300 ccs of free liquid. Biopsies were taken and oversewing was performed with a non-absorbable 2-0 suture. Extensive peritoneal lavage was completed, and a drain was left in place. Her post-operative period was uneventful; she was placed on a high-dose proton pump inhibitor and was given H. Pilory treatment since biopsies came back positive. On follow-ups, she's doing well.

Conclusion:

Bariatric surgery is progressively increasing throughout the world. Therefore, its complications, even rare ones, such as perforated ulcers of the excluded segments after RYGB, must be known and always considered since early diagnosis is crucial to provide the proper treatment and prevent fatal outcomes.

https://vimeo.com/720850205/9eb31af314

V-096

POSTERIOR PERFORATION OF A GASTROJEJUNOSTOMY MARGINAL ULCER: THE CHALLENGE OF THE RETROCOLIC RETROGASTRIC ROUX EN-Y GASTRIC BYPASS ANATOMY

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Introduction:

Marginal Ulcers (MU) at the gastrojejunostomy (GJ) complicate around 8-12% of the Roux-en-Y Gastric Bypass (RYGB) cases. Perforation of these ulcers happen in 1-2% of the cases.

Objectives:

To portray the technical difficulty associated with managing MU perforations in RYGB patients with a retrocolic retrogastric (RCRG) bypass anatomy in a minimally invasive fashion.

Methods:

We present a case of a 57-year-old male who underwent RCRG RYGB 10 years ago (current BMI is 53 kg/m2). He presents with a history of 1 day of abdominal pain. His pulse was >100/min and his systolic blood pressure was 90 mm Hg. His labs showed a WBC of 165000 and a glucose of >500. CT scan was obtained showing free air with a probable perforation at the GJ. Patient was consented for laparoscopic exploration.

Results:

Intraoperatively, purulent peritonitis was noted. There was no apparent anterior preformation at the level of the GJ. The pouch was separated from remnant stomach and the space between the pouch, the remnant stomach, and the pancreas posteriorly was explored. Copious amounts of gastric contents and pus were suctioned. Mobilization of the Roux limb exposed a >2 cm perforated posterior GJ ulcer that was adherent to the pancreas. The location presented a challenge for intracorporeal suturing of the perforation (video). After closure, the area was then patched with omentum and a drain was placed. Upper GI series on POD 3 showed no evidence of leak. The drain was removed, and the patient was started on diet without sequalae.

Conclusion:

Posterior MU perforation at GJ in patients with RCRG RYGB anatomy presents a technical challenge. The stability of the patient, the degree of contamination and inflammation, and the skills of the surgeon dictate the feasibility of a minimally invasive approach in these cases.

https://vimeo.com/720852307/aba4abeb3d

V-097

POUCH CREATION DURING ROUX-EN Y GASTRIC BYPASS WITH A GASTROESOPHAGEAL JUNCTION TUMOR

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background/Introduction:

Anatomical abnormalities at the gastroesophageal junction can present a considerable clinical dilemma for the Bariatric Surgeon particularly if they encroach on esophageal lumen. Here we present a complex case in which a sleeve gastrectomy for morbid obesity was attempted but aborted due to an incidentally found gastroesophageal tumor and referred to our institution for resection and reconstruction to address the tumor and the patient's morbid obesity.

Objectives:

To review a modification of gastrojejunal reconstruction during gastric bypass in the context of a gastroesophageal junction tumor.

Methods:

The patient is a 37-year-old female with a preoperative BMI of 35.8 who underwent attempted robotic laparoscopic sleeve gastrectomy. She had a normal preoperative upper endoscopy. Following mobilization of the greater curvature she was noted to have roughly a 3 cm mass at the gastroesophageal junction. The procedure was aborted. The patient underwent CT of her abdomen which demonstrated the mass with an associated enlarged lymph node. She subsequently underwent EUS with FNA, the cytology positive for spindle cells. The patient was referred to our institution. She was offered surgical resection with Roux en-y reconstruction.

Results:

The patient had an uneventful post-operative course. She was advanced to a Bariatric liquid diet on post-operative day 1 and tolerated it well without obstructive symptoms. She was discharged from the hospital on post-operative day 2. Pathology from the tumor was 3.7 cm leiomyoma with uninvolved margins. On follow-up, the patient lost an appropriate amount of weight and did not report any gastrointestinal symptoms.

Conclusion:

Modifications in the technique of gastric bypass are needed to address anatomical abnormalities at the gastroesophageal junction. Although, resection of the mass with complete exclusion of the stomach represents a surgical approach, here we demonstrate preservation of a small gastric pouch with gastrojejunal anastomosis without compromising the esophageal lumen.

https://vimeo.com/720877548/d5bd6bd305

V-098

PRE BARIATRIC ENDOSCOPY: IS IT NECESSARY TO BE DONE?

The recommendation and role of endoscopy before bariatric surgery

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Background:

We present two cases in which the EGD changed the final surgical decision. The first patient had a history of obesity (BMI 37.9), with a preoperative incidental finding of Forrest III antral ulcer refractory to medical treatment. The second had a history of obesity (BMI 43) and an endoscopic finding of raised lesions with central erosion in the gastric antrum with a histological diagnosis of incomplete intestinal metaplasia. Both patients were indication of bariatric and metabolic surgery and gastric resection of the distal excluded stomach.

Operative procedure:

Roux-en-Y gastric bypass (RYGB) is considered the Gold Standard for the treatment of morbid obesity. The classical technique preserves the excluded stomach to maintain the original anatomy and avoid manipulation of the intra abdominal organs. However, this distal remnant stomach becomes a complete "blind loop" that can lead to short- and long-term complications, such as bleeding from an undetected gastric or duodenal ulcer, gastro-gastric fistula formation, an increased incidence of Marginal ulcers due to the retained antrum effect, bacterial proliferation and histological changes of the mucosa. Among these, the latter incurs the possibility of developing cancer in the excluded stomach, which would be the most likely problem and with the highest risk in countries where gastric malignancy is highly prevalent.

On the other hand, patients with resectional LRYGB would be permanently deprived of anatomic reversibility to normal integrity. Although gastric sleeve may be another therapeutic option for those at high risk of gastric cancer, the literature suggests that RYGB is superior to SG concerning medium and long-term weight loss and that the latter would have a relatively high incidence of de novo gastroesophageal diseases associated with postsurgical gastroesophageal reflux.

In both of the cases, laparoscopic gastric bypass with remnant stomach resection was performed.

Results:

The 2 of the patients did well on the follow up. The mean surgery time was 125 min. The average length of stay was 48 hours.

In the first case, the pathology showed the loss of epithelium with inflammatory reaction compatible with ulcer, on the second case, incomplete intestinal metaplasia. There was no malignancy in any of the pieces

https://www.youtube.com/watch?v=yQfMTmmHcoA

V-099

REFRACTORY SEVERE PROTEIN CALORIE MALNUTRITION FOLLOWING ONE ANASTOMOSIS GASTRIC BYPASS: SHORTENING OF BILIOPANCREATIC LIMB WITH GASTROJEJUNAL ANASTOMOSIS PRESERVATION

Revisional surgery

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Introduction:

Mini gastric Bypass – One anastomosis gastric Bypass (MGB-OAGB) is increasing in popularity around the globe because of its simplicity and shorter operative time, providing effective excess weight loss and resolution of obesity comorbidities with comparable long-term results and surgical risks with laparoscopic Roux-en-Y gastric Bypass.

Methods:

We present the case of a 46-year-old male who underwent laparoscopic MGB-OAGB in 2019 for super obesity (BMI 66.8 Kg/m2) associated to hypertension, dyslipidemia, liver steatosis and obstructive sleep apnea. Total small bowel length was measured at 620 cm. A long and narrow gastric pouch was created, and an end to side loop gastrojejunostomy was performed at 230 cm from the ileocecal valve in an antecolic fashion. Excess weight loss (EWL) at fifteen months was 96%, and the patient developed signs and symptoms of severe protein calorie malnutrition with hypoproteinemia and hypoalbuminemia, frequent bowel movements (up to 18 times a day) and bilateral lower limb oedema. After failure of dietary supplementation, total parenteral nutrition was initiated for a period of six months until laboratory and clinical signs of malnutrition improved.

Conclusions:

The complication rate in bariatric revisional surgery is higher than for primary surgery. In the case of a patient presenting uniquely with malabsorption and malnutrition refractory to medical management, shortening of BPL with preservation of the GJ anastomosis seems feasible and safe. Nonetheless, every approach should be individualized based on patient´s preferences and alimentary habits.

https://www.youtube.com/watch?v=mbjgwetdHaI

V-100

REVERSION OF ROUX-EN-Y GASTROJEJUNAL BYPASS IN A MALNOURISHED AND ANEMIC PATIENT: CASE REPORT

Endoscopic and percutaneous interventional procedures

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Introduction:

Roux-en-Y gastrojejunal bypass is a safe and effective procedure in the treatment of obesity and metabolic syndrome; however, there are complications that will require surgical reoperation in up to 25% of the cases. These events are divided into early and late complications. Some will require reversal surgery (restore the original anatomy). Malnutrition is the cause that most frequently requires reversal surgery, which can occur due to several factors. The objective of this presentation is to describe that the modified Branco- Zorron technique is a surgical option for the complications of gastrojejunal bypass that require reversion such as malnutrition and severe anemia.

Objective:

Describe the clinical symptoms in a patient with nutritional complications after a Roux-en-Y gastrojejunal bypass, and the surgical management by laparoscopic approach.

Methods:

We present a case report of a 55-year-old male patient with a postoperative gastrojejunal bypass Roux-en-Y due to morbid obesity and metabolic syndrome. Ten months after the surgery, he started with anemia and severe malnutrition without proper response to medical management even requiring transfusions. It was evaluated by a multidisciplinary group who diagnosed macrocytic anemia, of a regenerative type, secondary to a malabsorptive surgical procedure.

Results:

Based on the above, surgical reoperation was decided to revert the gastrojejunal bypass and thus improve his quality of life.

Conclusions.

Reversal surgery of a Roux-en-Y gastrojejunal bypass, due to complications, implies a great surgical challenge due to the technical difficulties and a high rate of morbidity and mortality. In this case, a successful reversion of the gastrojejunal bypass with improvement of the clinical state was achieved.

https://vimeo.com/723001668/0bf2bd55fc

V-101

REVISION OF FAILED BANDED AND BAND REMOVAL SLEEVE GASTRECTOMY TO ROUX-EN-Y GASTRIC BYPASS IN A PATIENT WITH UNKNOWN INTESTINAL MALROTATION: LAPAROSCOPIC APPROACH

Revisional surgery

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Introduction:

Intestinal malrotation is a rare congenital abnormality. During bariatric surgery, surgeons need to be cautious for anatomic variations that can require an alternative strategy to the planned surgery remembering the absence of the Petersen's space but closure of other defects that may lead to internal hernia.

Objectives:

Review the therapeutic approach and recognition of an intestinal malrotation suspected and confirmed during a revisional surgery after multiple restrictive procedures.

Methods:

A 46-year-old female with a BMI of 35.4 kg/m2 and severe GERD symptoms with partial response to medical management. Patient had a history of laparoscopic sleeve gastrectomy in 2007, with poor response and placement and removal of non-adjustable gastric banding in 2008 and 2012 respectively, she now presented weight regain. Upper gastrointestinal endoscopy showed hiatal hernia and biliary reflux. CT scan was performed and estimated gastric volume of 272 cc and intestinal malrotation was suspected. Surgery was performed as scheduled. Multiple firm adhesions were found from the liver to the stomach, removal using blunt and cutting dissection was performed, finding a dilated gastric sleeve with a retained fundus. Retrogastric window was performed using ultrasonic energy on the lesser curvature of the stomach, gastric pouch was created over a 32-fr tube with an endoscopic linear stapler. The ligament of Treitz and the proximal jejunum were identified near the gallbladder in the right upper quadrant rather than in their normal site, the totality of the colon and the appendix were also observed compatible with intestinal Malrotation. Gastrojejunostomy and jejunojejunostomy were performed with a linear stapler, both anastomosis were closed in one layer Routine mesenteric defect closure was made with running absorbable barbed suture to have both a 100 cm alimentary and biliopancreatic limb, Routine mesenteric defect closure was made, intraoperative upper endoscopy and double leak test were performed.

Results:

On POD 1 leak test negative, POD2 started with a clear liquid diet and discharged home. 1 month PO appointment patient had adequate diet progression, with a 10kgs weight loss, will continue PPI for 60 days.

Conclusion:

Intestinal malrotation is not a contraindication for bariatric surgery; surgeons must be conscious of incidence and be aware of intestinal anatomical conditions and make adjustments on surgical technique according to patient requirements.

https://vimeo.com/720869080/6b856110ac

V-102

REVISION OF ROUX-EN-Y GASTRIC BYPASS WITH LIMB DISTALIZATION

Revisional surgery

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Background:

Although RYGB remains the gold-standard bariatric surgery a small but significant number of patients might regain up to 50% of the total weight lost. Given the nature of the original procedure, several methods of increasing weight loss have been described.

Objectives and Methods:

RYGB is a mixed metabolic procedure with a restrictive component (through the formation of a small gastric pouch), a biliopancreatic shunt (gastro-jejunal anastomosis) and an hypo absorptive component (jejuno-jejunal anastomosis. The length of the limbs used varies according to the surgeon's preference and is usually between 50 and 150 cm, for each of the alimentary and biliopancreatic limbs.

Results:

We present the case of a patient submitted to laparoscopic gastric bypass 5 years earlier. After surgery, the patient reached a maximum total weight loss of 35% but subsequently regained 50% of the TWL. Despite optimized conservative treatment, intensive nutritional counselling and adjuvant weight loss medication the patient kept her weight stabilized, without further weight loss. For this reason, we proposed surgical revision with a laparoscopic type 2 distalization of RYGB.

Conclusions:

We present a video that illustrates this surgical technique, measuring total intestinal length (and comparing to previous operative notes) and elongating the biliopancreatic limb. The post-operative was uneventful and the patient was discharged on POD 2.

https://vimeo.com/723003750/5dd4774cfd

V-103

REVISIONAL GASTRIC BYPASS AFTER SLEEVE GASTRECTOMY IN INTESTINAL MALROTATION

Revisional surgery

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Introduction/Background:

Intestinal rotation anomalies (IRA) are congenital and rare entities with an estimated incidence of 0.2 to 0.5%. IRA are generally diagnosed in childhood and their most common manifestations are intestinal obstruction. By contrast, IRA are rarely diagnosed in adults and is more frequently found incidentally during abdominal surgery. We present the case of a patient with IRA who was diagnosed during a revisional gastric bypass (GB) due to weight regain.

A 30-year-old female patient with a past history of appendectomy and a “constipation surgery” had undergone a laparoscopic sleeve gastrectomy in the year 2011 for type II obesity with BMI of 36 kg/m2. She consulted 9 years later due to progressive weight regain reaching a BMI of 38 kg/m2. She had an upper endoscopy with no relevant findings and an abdominal ultrasound that showed a 9 mm gallbladder polyp. A laparoscopic cholecystectomy (LC) with a single-anastomosis duodeno-ileal bypass (SADI) was planned. Unexpectedly, it was observed intraoperatively that the ligament of Treitz was absent and that the entire small bowel was displaced to the right of the patient’s midline. These findings raised suspicions of an anatomical anomaly, so only the LC was performed and the bariatric procedure was postponed. An enterography by magnetic resonance was carried out. Among the most relevant findings were: absence of the ligament of Treitz, small bowel in the right hemiabdomen and cecum and right colon in the middle third of the abdominal cavity, consistent with the diagnosis of IRA. A GB was planned. During surgery, the same anomalies above described were confirmed. The stomach was transected with a laparoscopic 60 mm blue stapler creating a 50 mL gastric pouch (GP). The proximal jejunal limb was identified and ascended to the GP, thus creating a gastrojejunal anastomosis with a 45 mm golden stapler and reinforced with a running monofilament absorbable 3-0 suture over a 36 F bougie. A 150 cm alimentary limb was selected and the Roux-en-Y jejunojejunostomy was made with a 45 mm golden stapler. Finally, the jejunum was transected between both anastomoses. The patient progressed well post-operatively and was discharged the day after surgery. She was seen in the office 3 months later without any complications.

Conclusion:

Bariatric surgery is feasible in patients with IRA. Nonetheless, they entail technical challenges that should be addressed by experienced Surgerys.

https://vimeo.com/723004970/2707646834

V-104

REVISIONAL SURGERY: GASTRIC BY-PASS SCOPINARIZATION

Revisional surgery

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Background:

Revisional surgery plays an important role in patients who present regain or insufficient weight loss, despite healthy lifestyle and diet. The incidence of this kind of surgery is increasing as more feedback on long term results of bariatric procedures is becoming available. Technique choice should be individualized. The most common techniques for the revision of a by-pass are limb distalization and “scopinarization”.

Objectives:

Our aim is to present a clinical case of revisional surgery, concretely a gastric by-pass “scopinarization”.

Methods:

Woman, 44 years old. Morbid obesity and type II diabetes. Initial weight was 127 Kilograms (Kg) (Body Mass Index [BMI] 47,56). The patient underwent an open Roux-en-Y gastric bypass in 2012 and a laparoscopic cholecystectomy and hernia repair in 2015. Minimum weight was 101 Kg, reaching 125 Kg in spite of healthy lifestyle. Endoscopy and barium X-Ray were normal.

Results:

In October 2019 a laparoscopic by-pass “scopinarization” and hiatal hernia repair was conducted. No post-operative complications occurred.

After 4 months the patient weighed 110 Kg (BMI 41,1), tolerated a normal diet and presented no nutritional deficits.

Conclusion:

Gastric by-pass “scopinarization” is a useful technique, as it can reverse the regain process and achieve sustained weight loss. However, it is necessary to continue analysing its results and efficacy.

https://vimeo.com/723187760/3ca21c6e42

V-105

ROBOTIC APPROACH FOR THE CONVERSION OF VERTICAL BANDED GASTROPLASTY TO ROUX-EN-Y GASTRIC BYPASS

Robotic bariatric surgery

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Background / Introduction:

Vertical banded gastroplasty (VBG) can be complicated by outflow obstruction of the proximal pouch, leading to nausea, dysphagia, and reflux. Conversion of VBG to Roux-en-Y gastric bypass is an option for these patients, but this usually requires an open surgical approach with associated pain and morbidity. A minimally-invasive robotic approach may be feasible in select patients.

Objectives:

To describe a robotic approach to the conversion of VBG to RYGB with attention to technical details.

Methods:

A video case report of the successful conversion of VBG to RYGD in a 41-year-old female presenting with medication-refractory reflux and vomiting following remote VBG.

Results:

The operation was performed successfully using a robotic approach with a satisfactory clinical outcome.

Conclusion:

Robotic conversion of VBG to RYGB is feasible and safe.

https://vimeo.com/723005924/62f274efb9

V-106

ROBOTIC ASSISTED REPAIR OF PERFORATED MARGINAL ULCER AFTER GASTRIC BYPASS

Endoscopic and percutaneous interventional procedures

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Background:

Marginal ulcer perforation continues to be a challenge following gastric bypass surgery. Laparoscopic approaches have been previously described successfully.1 With the advent of robotic minimally invasive instrumentation, this approach can now be utilized to address acute pathology. We present our experience with a robotic assisted repair of perforated marginal ulcer in a patient who had previously undergone RYGB.

Objective:

This case study is meant to demonstrate the use of a robotic minimally invasive approach, as well as the value of intraoperative endoscopy, to address an acute perforation of a marginal ulcer in a gastric bypass patient.

Method:

After an extensive lysis of adhesions, intraoperative endoscopy was utilized to determine the location, size of ulcer, as well as to delineate the relevant anatomy. Following this, consideration was given to primary repair and omental and serosal patch repairs, but given the size and location of the defect, a complete resection of the involved roux segment was performed, with creation of a two layered, hand sewn gastrojejunostomy. Intraoperative endoscopy was utilized throughout to obtain accurate and critical anatomic guidance.

Results:

The patient underwent a successful revision operation, recovered well post-operatively, and was discharged on POD4. She continues to do well on outpatient follow up.

Conclusion:

Robotic assisted repair of marginal ulcer perforations is a feasible technique.

References:

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2. Kalaiselvan R, Exarchos G, Hamza N, Ammori BJ. Incidence of perforated gastrojejunal anastomotic ulcers after laparoscopic gastric bypass for morbid obesity and role of laparoscopy in their management. Surg Obes Relat Dis. 2012 Jul-Aug;8(4):423-8. doi: 10.1016/j.soard.2011.06.008. Epub 2011 Jun 24. PMID: 21840266.

https://vimeo.com/723006887/0559aa28f6

V-107

ROBOTIC BRANCO-ZORRON SWITCH FOR SEVERE DUMPING SYNDROME WITH REFRACTORY HYPERINSULINEMIC HYPERINSULINEMIA AFTER RYGB – TECHNICAL ASPECTS OF FIRST CLINICAL SERIES

Emergent technology, new nonstandard and bariatric surgery

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Background:

The anatomical and physiological changes after Roux-en-Y gastric bypass for morbid obesity can lead to severe hyperinsulinemic hypoglycemia with neuroglycopenia in a small percentage of patients. The exact physiologic mechanism is not completely understood. Surgical reversal to the original anatomy and distal or total pancreatectomy are current therapeutic options to reverse the hypoglycemic effect, with substantial associated morbidity. Our group reports a pilot clinical series of a novel surgical technique using robotic one anastomosis jejunal interposition with gastric remnant resection (Branco-Zorron Switch).

Objectives:

The Robotic Branco-Zorron Switch as a revisional procedure may allow safe surgery by overcoming technical issues in patients with previous RYGB.

Methods:

Patients with severe symptomatic hyperinsulinemic hypoglycemia refractory to conservative therapy were treated using the technique. DaVinci X System was docked after insertion of 4 DaVinci trocars. The procedure started with resection of the remnant stomach close to pylorus. The alimentary limb was sectioned at 20 cm from the gastrojejunal anastomosis, and the rest of the alimentary limb was resected until the Y-Roux anastomosis. A hand-sutured anastomosis was then performed with the proximal alimentary limb and the remnant antrum.

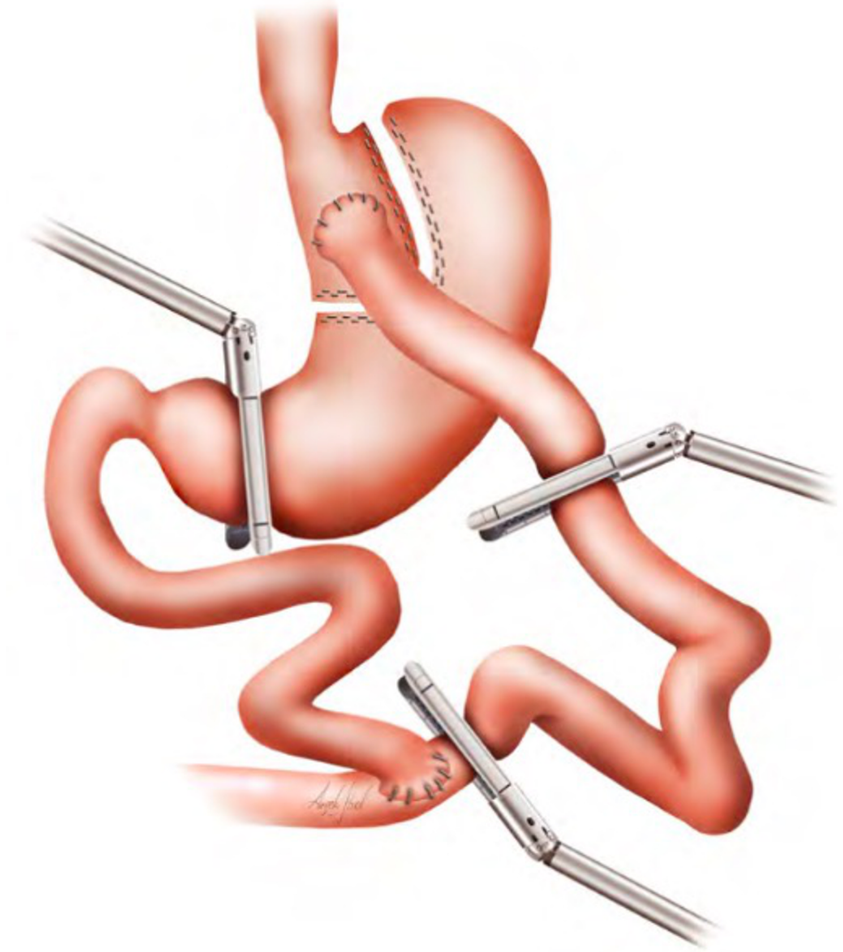
Results:

Six patients were successfully submitted to the procedure with reversal of the symptomatology and normalization of insulin levels, postprandial glucose levels, and oral glucose tolerance test, with a mean follow-up of 24.3 months. Mean operative time was 188 min, and patients recovered without post-operative complications. One patient was submitted to further endoscopic balloon dilatation of the Jejuno-pyloric anastomosis.

Conclusion:

Patients suffering from severe hyperinsulinemic hypoglycemia after gastric bypass may be efficiently treated by this innovative procedure, avoiding extreme surgical therapy such as pancreatectomy or restoring the gastric anatomy, while still maintaining sustained weight loss. Studies with larger series and longer follow-up are still needed to define the role of this therapy in managing this entity.

https://youtu.be/meOWWXMwI8g



V-108

ROBOTIC CONVERSION FROM VERTICAL BANDED GASTROPLASTY TO ROUX-EN-Y GASTRIC BYPASS: A VIDEO PRESENTATION

Revisional surgery

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Background:

Robotic surgery has been accepted as an adjunct to laparoscopy for revisional bariatric surgery.

Case presentation:

Here we present a video of a robotic conversion from Vertical Banded Gastroplasty to Roux-en-Y Gastric Bypass. The patient has undergone vertical banded gastroplasty 15 years prior. She has developed dysphagia, reflux as well as weight gain.

Robotic surgery allowed mobilization of scar tissue especially from the polypropylene mesh included in the gastroplasty. The previous vertical staples as well as the mesh area were completely resected along with the gastric fundus. Gastric bypass was performed in ante-colic ante-gastric fashion.

The patient was transitioned to home in postop day two tolerating liquid diet.

She was seen six months after surgery, with adequate weight loss as well as resolution of her preoperative signs and symptoms.

Conclusion:

The robotic dexterity may add value to revisional bariatric surgery.

https://vimeo.com/721109066/93969c5f74

V-109

ROBOTIC REVERSAL OF VBG

Revisional surgery

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Background:

This video demonstrates a robotic VBG reversal in a patient with a remote history of malrotation surgery when she was a newborn and history of VBG, 2000. She presents with vomiting, heartburn and food regurgitation. UGI showed dilated gastric pouch and abnormal position of DJ junction. She was found to have stoma stenosis on EGD. First, the adhesions are taken down then the VBG was identified and was found placed distally in stomach. After identifying gastric pouch and normal body of stomach, gastro-gastrostomy was made and enterotomy was closed in two layers. The video shows the anatomy and dissection facilitated with the use of the robot.

https://vimeo.com/723008797/063815520c

VIDEO ABSTRACTS

V-110

ROBOTIC SASI - SINGLE ANASTOMOSIS SLEEVE ILEAL BYPASS AS A FIRST OR SECOND STAGE BARIATRIC TREATMENT FOR OBESITY: REPORT OF FIRST SERIES

Investigational procedures

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Background:

For superobesity, first-line bariatric surgeries like Sleeve Gastrectomy (SG) and Roux-en-Y Gastric Bypass (RYGB) might lead to unsatisfactory results. Meanwhile, the risk of weight regain after SG was 19.2%–75.6% and superobesity trend to regained weight more rapidly after surgery.

Objectives:

A novel bariatric procedure- single anastomosis sleeve ileal (SASI) bypass was reported to be a safe, feasible and effective treatment for obese patients, while with low post-operative morbidity and mortality. The SASI bypass for superobesity performed with robotic system DaVinci has not yet been described.

Methods:

This is a case study of robotic single anastomosis sleeve ileal (R-SASI) bypass, which was performed as a second stage bariatric treatment for a 30-y-old superobese patient. The R-SASI bypass was consisted with six steps, including step 1. Set up robotic operation platform, step 2. Sleeve stomach is dissected, step 3. Identifying ileocecal junction, step 4. 300cm ileum measured upwards, step 5. Gastroileal anastomosis is created, and step 6. Jejunoileal anastomosis is created. Finally, sleeve stomach had two outlets, one to the duodenum and another to the ileum, while jejunoileostomy could help to avoid the bile reflux in the stomach.

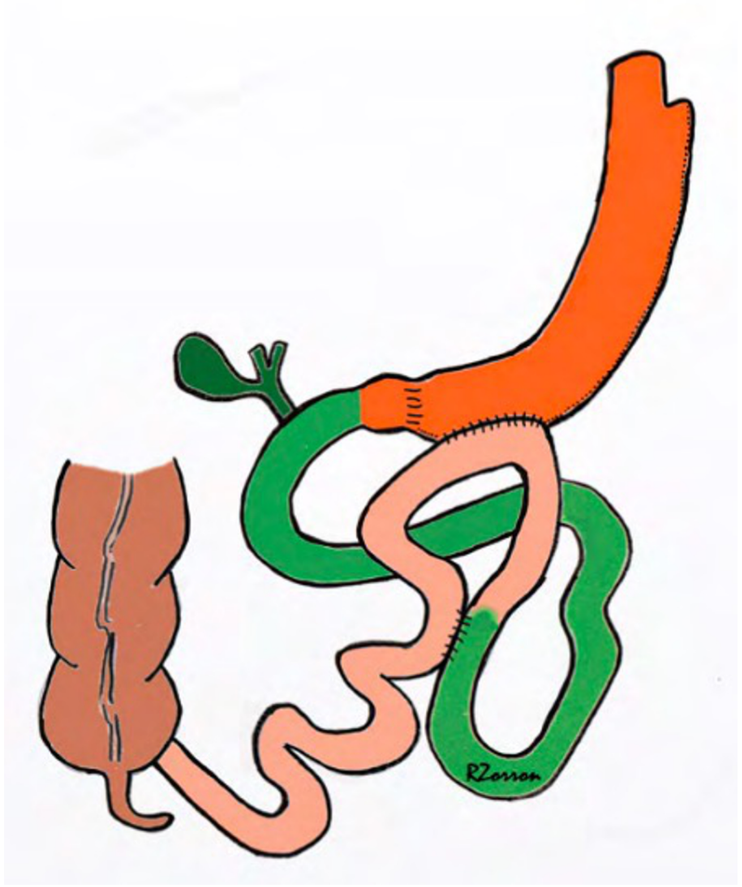
Results:

The perioperative outcomes of the superobese patient were uneventful. The post-operative stay was 2 days. Follow up at 30 days showed 9 kg weight loss.

Conclusions:

SASI bypass is potentially safe option as the second stage bariatric treatment for superobese patient after sleeve gastrectomy. The long-term follow-up results is subsequently required to evaluate the efficacy of SASI and Robotic-SASI bypass.

https://youtu.be/GI4XWGXSb8I



V-111

ROBOTIC SINGLE ANASTOMOSIS SLEEVE-JEJUNAL BYPASS (SASJ)- A NEW BARIATRIC THERAPY FOR HIGH-RISK SUPEROBESE PATIENTS: REPORT OF THE FIRST ROBOTIC CASE

Robotic bariatric surgery

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Background:

Liver Cirrhosis in patients with super obesity are of difficult bariatric management especially regarding extreme malabsorption in this set of patients. Other issues regarding exposure and technical difficult anastomosis led to the choice of SASJ for the 2nd-stage procedure after Sleeve Gastrectomy.

Objectives:

Robotic SASJ procedure may allow safe second step surgery by overcoming technical issues in high-risk patients with BMI>50 kg/m2.

Methods:

High risk patients with BMI over 50 kg/m2 due to liver cirrhosis, cardiovascular risk, or chronic respiratory insufficiency with or without reflux symptomatic were scheduled for robotic SASJ procedure. The video describes key issues to perform this technique safely. 1. Position supine, six trocars are inserted, Da Vinci arms are docked to the left shoulder of the patient. 2. The omentum is separated from the greater curvature close to the Sleeve using DaVinci sealer. 3. The jejunal loop for the anastomosis was identified counting forwards 150cm from Treitz Ligament. 5. Gastrojejunal anastomosis is performed in a 2-row fashion or using linear stapler.

Results:

Totally robotic SASJ was performed in this selected group of patients and the technical issues were identified. The anastomosis is performed using a two-layer hand-sewing suture. Operative time is not extended compared to laparoscopic procedure.

Conclusions:

This new technique is a promising option to provide effective therapy for high-risk patients classified as superobese, with the potential of avoid extreme malabsorption from other techniques in this set of patients. To our knowledge, this is the first description of this novel robotic SASJ technique in the literature.

https://www.youtube.com/watch?v=r_T_qNhLtIk&feature=youtu.be

V-112

ROBOTIC SURGERY TREATMENT OF CHRONIC POST SLEEVE GASTRECTOMY LEAK

Emergent technology, new nonstandard and bariatric surgery

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Introduction:

Gastric leak following laparoscopic sleeve gastrectomy (SG) is the most common cause of major morality and mortality in bariatric surgery. Salvage surgery should be considered for treating chronic gastric leak after failure of endoscopic and/or scannographic transparietal drainage. Laparoscopic Roux-en-Y fistulo-jejunostomy (RYFJ) is reported as a safe and feasible procedure for the treatment of post SG chronic fistula.

Objectives:

We report a video "case observation" of RYFJ Robot-Assisted (RA) procedure, to suggest Robotic approach in such difficult cases.

Methods:

It is about a male patient taken in charge in a French Bariatric Expert Center. The procedure was considered as salvage surgery after failure of trans parietal scanographic guided drainage and iterative endoscopic drainage for chronic junctional oeso-gastric leak (> 4 years) following laparoscopic sleeve gastrectomy. Procedure included surgical identification of the gastric leak, creation of an ante-colic Roux-en-Y limb and performing a fistulo-jejunal manual anastomosis with a DaVinci X. device. (video presentation of the procedure). Demographic, and peri-operative data as length of hospital stay (LHS) or adverse events were collected.

Results:

26-year-old patient had RYFJ Robot-assisted procedure as salvage surgery. The median interval between sleeve gastrectomy and salvage procedure was 4 years. The operative time was 210mn. Oral intake was allowed at day1 and discharge was allowed at day 2. Readmission for constipation was noted 4 weeks after surgery. The patient was symptoms free and did well on the 1 year follow up.

Conclusion:

RYFJ robot-assisted can be a safe and feasible procedure for the treatment of chronic gastric leak after failure of instrumental radiologic and endoscopic treatment. Further studies can confirm the relevance of this approach.

https://vimeo.com/723014397/ae3b9a1216

V-113

ROUX-EN-Y GASTRIC BYPASS FOR PATIENT WITH PREVIOUS TWO OPEN BARIATRIC OPERATIONS

Revisional surgery

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Introduction:

Roux-en-Y gastric bypass (RYGBP) is considered one of the best surgical options for treatment of morbid obesity.

Objectives:

We aim to treat the patient`s obesity.

Methods:

This is a female patient, 39 years old and BMI 39 KG/ M2. She had open vertical banded gastroplasty (VBG) 15 years ago but she regained most of her weight so she had open omega loop gastric bypass with enteroenterostomy 9 years ago. The technique of this last operation was completely wrong as the gastrojejunostomy was done below the line of the stapling of the previous VBG so the patient still after the bypass, cannot eat protein diet well and still a sweat eater. Patient lost only 15 kg after the omega loop gastric bypass.

Results:

We converted the omega loop gastric bypass with enteroenterostomy into Roux-en-Y gastric bypass laparoscopically. Operative time was 178 minutes. Patient recovered smoothly. Patient discharged at the 2nd postoperative day. No postoperative complications. This patient lost 20 kg during the first 5 months postoperatively.

Conclusion:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) following an open VBG is technically challenging, but safe operation.

https://vimeo.com/723013185/721a9e6242

V-114

ROUX-EN-Y GASTRIC BYPASS IN A PATIENT WITH CHRONIC GASTRIC SLEEVE LEAK REFRACTORY TO ENDOSCOPIC TREATMENT

Revisional surgery

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Introduction:

Gastric leaks occur in 1.7%-5.1% of bariatric surgeries and are more common in sleeve gastrectomy compared to Roux-en-Y gastric bypass. Common complications include sepsis, multiorgan failure, abscess, and nutritional deficiency. The mortality rate due to gastric leaks is reported to be between 6% and 14.7%. Management commonly includes endoscopic stenting or clipping.

Objective:

To present a case of a 36-year-old female who developed a chronic gastric leak near the gastroesophageal junction after laparoscopic sleeve gastrectomy which went undiagnosed for over a year. She developed multiple complications including splenic abscesses and miscarriage and the leak was refractory to endoscopic treatment. She was ultimately treated with laparoscopic partial gastrectomy and Roux-en-Y gastric bypass with excision of the gastric leak in 2019.

Methods:

Chart review was performed to provide a thorough timeline of the patient's initial procedure and the complications thereafter. A video of the crucial aspects of the procedure including the laparoscopic Roux-en-Y gastric bypass and excision of the gastric leak was included to highlight the technique used to exclude the gastric leak and avoid the need to perform an esophagojejunostomy.

Results:

The patient improved post-operatively after a course of intravenous antibiotics given for sepsis. She was found to have improved energy levels and appetite at the three-week follow-up visit and has not developed further complications since then. While the current management of post-operative gastric leaks commonly includes endoscopic stenting and clips, the rate of stent migration is reported to be nearly 15% in the literature, and the success rate of clipping is limited to 72%-91%. Depending on the location of the gastric leak, performing a partial gastrectomy to exclude the leak and performing a Roux-en-Y gastric bypass with the remaining gastric pouch is a viable method to treat refractory gastric leaks.

Conclusion:

Laparoscopic bariatric surgery is a practical method to manage gastric leaks that are refractory to endoscopic treatment and is likely to improve patient outcomes. Furthermore, timely diagnosis of gastric leaks is necessary to avoid life-threatening complications.

https://vimeo.com/702882992

V-115

ROUX-EN-Y GASTRIC BYPASS REMNANT NECROSIS FROM RECURRENT PARAESOPHAGEAL HERNIA

Hernia surgery in the bariatric patient

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Background:

Recurrent type 4 paraesophageal hernias (PEH) can be difficult to manage. PEH after roux-en-y gastric bypass (RYGB) can contain the gastric pouch, roux limb, and other contents including colon and the gastric remnant.

This case involves a 62-year-old woman with history of laparoscopic RYGB and concurrent PEH repair. She had a recurrence six years after RYGB with incarcerated PEH containing gastric pouch and colon. This was repaired laparoscopically using permanent sutures with reinforcement with bioabsorbable mesh. 1 year later, she had acute chest pain and shortness of breath found to have again a recurrent PEH with strangulated gastric remnant, incarcerated gastric pouch and esophageal ulceration. The hernia was repaired laparoscopically with a subtotal gastrectomy. Afterwards her post-operative course remained complicated after esophageal ulceration developed into perforation with migration of sutures intraluminally and intra abdominal abscesses.

Previous case reviews have examined adequate success from simultaneous PEH and RYGB. This is the first case reported involving gastric remnant necrosis.

Objectives:

To present a unique complicated case arising after multiple recurrent PEH after RYGB with gastric remnant necrosis resulting esophageal ulceration and perforation.

Methods:

Single institution in United States of America

Conclusion:

Recurrent PEH can be a challenging case after RYGB. This case highlights a unique complication and management with strangulated gastric remnant and esophageal perforation.

https://youtu.be/KR5wnKikRIo

V-116

ROUX-EN-Y GASTRIC BYPASS REVISION DUE TO INSUFFICIENT WEIGHT LOSS

Revisional surgery

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Introduction:

Insufficient weight loss or weight regain (WR) after Roux-enY gastric bypass (RYGB) could be the result of multiple factors such as non-compliant lifestyle, mental health issues, hormonal/metabolic imbalance, as well as technical issues which may demand further interventions. Pouch dilatation, increased width of gastroenterostomy and gastro-gastric fistula are recognized causes of WR after RYGB. Another factor that should be considered is the length of the alimentary and biliopancreatic limbs, as well as the length of the common channel. Distalization of the RYGB either by creating a long alimentary or a long biliopancreatic limb is suggested for RYGB revision the percentage of excess body mass index loss was similar between two modifications in one case series.

Method:

A 48-year-old male presented for insufficient weight loss after RYGB and cholecystectomy 7 years before. Preoperative BMI was 41.6 and BMI following index operation was 39.5 (EBMIL 13%). Pre-revisional gastroscopy revealed normal-appearing, non-dilated pouch, absence of gastro-enteric fistula and width of gastroenterostomy as suggested by guidelines. Length of common limb was suspected to be the cause of insufficient weight loss.

Result:

The patient underwent a laparoscopic RYGB revision the common limb length was measured to 6,25m from enteroenterostomy to the ileocecal valve. The length of the alimentary limb was 150 cm and the length of the biliopancreatic limb 50 cm. The biliopancreatic limb was divided before the previous anastomosis, transferred 3 m proximal the ileocecal valve and the anastomosis was made with linear stapler. Post-operative course of the patient was uneventful and he was discharged on POD 2.

Conclusions: We suggest routine measurement of the entire length of the small bowel before RYGB irrespective of preoperative BMI, in order to avoid bariatric failure of the procedure.

https://vimeo.com/537190205/e0b219d7a2

V-117

SHORTENING AND PLICATION OF ENTERO-ENTEROSTOMY FOR INTUSSUSCEPTION IN ROUX-EN-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background:

Laparoscopic Roux-en-Y gastric bypass (LRYGB) is considered by a large percentage of bariatric surgeons' the operation of choice for obesity surgery as reported by Melvin (J Gastrointest Surg. 4:398–400, 2004). It is considered a generally safe procedure with a low percentage of complications. One of these complications is small bowel obstruction which has different etiologies. A rare cause of intestinal obstruction is intussusception at the entero-enterostomy as reported by Arapis et al. (Surg Obes Relat Dis. 1:23–33, 2019) and Sneineh et al. (OBES SURG 30:846–850, 2020). The accurate incidence of intussusception after LRYGB is unknown but Simper et al. (Surg Obes Relat Dis. 4:77–83, 2008) found a 0.15% incidence in their study. Diagnosis of intussusception requires a high index of suspicion because neither physical examination nor imaging is sensitive. CT scan might identify the problem, but a negative CT scan image does not rule out intussusception. Treatment of intussusception varies according to the clinical picture of the patient at the presentation. These variations may include conservative treatment up to resection of the entero-enterostomy and do a re-anastomosis as discussed by Daellenbach et al. (OBES SURG 21:253–263, 2011). The video aims to present an alternative option for surgical management of intussusception of the entero-enterostomy following LRYGB which to our knowledge was not published before.

https://vimeo.com/596112865/dbdca1cbc6

V-118

SINGLE ANASTOMOSIS DUODENO ILEAL-BYPASS SLEEVE BY UMBILICAL SINGLE-PORT: FIRST DESCRIPTION

SADIs

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Introduction:

SADI-S is an innovative bilio-pancreatic derivation recently described, with excellent weight and co-morbidities results. It seems particularly interesting in case of sleeve failure. Moreover, minimally invasive approach in these heavy and risky interventions must be developed, and single-port surgery seams interesting with reducing number of incisions. This surgical approach has been studied by our team for over 10 years but never realized for SADI-S.

Objective:

Describe standardized umbilical single-port SADI-S procedure for the first time.

Observation:

We report the case of 47-year-old patient with a BMI at 36.47 kg/m2 with persistence of co-morbidities (HTA, SOS) and past history of failed sleeve gastrectomy (performed in 2010). The patient was prepared with multidisciplinary team program more than one year.

Operative Technique:

The single-port is performed according to the technique described by our team1. The 1st step consisted in evaluating the gastric pouch and the sleeve gastrectomy with refurbishment of the gastrolysis which appeared incomplete on the posterior gastric ligament while preserving the gastric antral posterior ligament (GAPL) which fixes the antrum at the posterior peritoneum for good gastric functionality2. In the 2nd time gastrolysis was prolonged on the posterior face of the antrum and the first duodenum up to the left edge of the gastroduodenal artery (AGD) with preservation of the right gastric artery. Finally, the single duodeno-ileal anastomosis (omega loop) is carried out 3 meters from the ileo-caecal valve, thus determining the common loop.

Results:

No complication without addition of trocar and without drainage, the operating time was 140 minutes. Re-feeding on D0 and the release on D1.

Excess weight loss at 12 months was 115% with adequate vitamin supplementation.This minimally-invasive approach for SADI-S is feasible with appropriate equipment. Good knowledge of the single-port is essential and the umbilicus allows sufficient access, exposing both the supramesocolic floor and the ileo-caecal junction. The surgeon have to know the 2 new concepts introduced by this single-port surgery: parietal space and the surgical corridor3. However, the addition of one or more trocars may be necessary if difficulties arise.

Conclusion:

SADI-S is described for the first time by umbilical single-port, which is feasible with good safety conditions, but it must be evaluated in a larger number of cases, with a randomized study.

https://vimeo.com/724670835/7c16545f48

V-119

SLEEVE GASTRECTOMY STENOSIS IN A CROHN'S PATIENT: GASTRO-GASTROSTOMY WITH A HIATAL HERNIA REPAIR AND FALCIFORM LIGAMENT BUTTRESS

Sleeve gastrectomy

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Introduction:

The incidence of Sleeve Gastrectomy (SG) stenosis and/or stricture is 0.26 to 4%. Stenosis is usually managed endoscopically. Resistant stenoses are managed surgically by converting to Roux-en-Y Gastric Bypass (RYGB). The management of SG stenosis in patients with Crohn's disease represents a specific challenge.

Objectives:

To assess feasibility and outcome of gastrectomy and gastro-gastrostomy (GG) as a management option for SG stenosis.

Methods:

We present a case of chronic SG stenosis in a 47-year-old female, with a BMI of 38 kg/m2 who has a history of multiple bowel resections for Crohn's disease. She underwent sleeve gastrectomy in 2016 and has been experiencing progressive nausea, dysphagia, vomiting, and diarrhea. She had several attempts of endoscopic balloon dilations, which failed to alleviate her symptoms. She has received enteral feeding via nasojejunal (NJ) tube for two months due to failure to thrive. Given her history and her current active intestinal Crohn's disease status, conversion to RYGB is not an ideal option. Thus, we offered her a stricturoplasty possible gastrectomy with a hiatal hernia repair.

Results:

Intraoperatively, a twisted sleeve staple line (going onto the lesser curve) and stenosis were noted. With this anatomy, stricturoplasty did not seem appropriate. Thus, a gastrectomy with GG was performed. We also repaired a hiatal hernia that was buttressed via falciform ligament (video). The procedure was initially well tolerated by the patient with early post-operative Upper GI series demonstrating excellent gastric emptying, patent GG anastomosis, and absence of leak. She was discharged on post-operative day 3, but she presented 3 weeks later with vomiting due to a GG stricture. An Axios ® stent was placed across the anastomosis and she had symptomatic improvement. She re-presented with pyloric stenosis that was managed by endoscopic pyloromyotomy. She is currently tolerating diet and off NJ tube feeds.

Conclusion:

Gastrectomy and GG is an acceptable and feasible option for the treatment of SG stenosis in patients with a contraindication for conversion to RYGB. Pyloric stenosis may complicate the procedure but can often be managed endoscopically.

https://vimeo.com/720859483/ad607dd7cf

V-120

SLEEVE GASTRECTOMY TO LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS FOLLOWED WITH WEIGHT REGAIN, WHAT NEXT? A NOVEL REVISION OF LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS TO ONE ANASTOMOSIS GASTRIC BYPASS LIKE PROCEDURE, EARLY EXPERIENCE OF FOUR CASES FROM A SINGLE CENTRE

Management of weight regain after surgery

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Introduction:

RYGBP is offered as a revision after SG. However, weight regain after such RYGBP is a challenge for further revision. This paper presents a novel OAGB-like revision with a one year result.

Objective:

Safe and easy revision after Gastric Bypass

Methods:

Four patients who underwent SG to RYGBP had weight regain after 5 years were prospectively followed after a novel revision with %EWL, Diabetes, Hypertension (HT), Obstructive sleep apnoea (OSA) and nutritional parameters. The RYGBP pouch and the alimentary limb were converted into a 25 cm tube similar to an OAGB like pouch and anastomosed at 500 cm proximal to ileocecal junction.

Results:

The mean BMI changed from 42 to 29 at one year and %EBMIL at one year was 76.4% diabetes (1/4) improved, HT (2/4) improved and OSA (4/4) improved. There were no nutritional deficiencies as compared to preoperative levels at one year. There were no complications.

Conclusion:

Novel OAGB-like revision after RYGBP is a simple and effective method of weight loss.

https://vimeo.com/720841461/a66467331c

V-121

STAPLE MISFIRE DURING FORMATION OF THE GASTRIC POUCH OF A ROUX-EN-Y GASTRIC BYPASS

Gastric bypass procedures including Roux-en-Y (RYGB) and one anastomosis gastric bypass (OAGB)/MGB

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Background/Introduction:

60-year-old female with a history of morbid obesity, BMI 38, hypertension, asthma, and metabolic syndrome who underwent robotic gastric bypass with roux-en-Y.

Objectives:

Demonstrate the occurrence and correction of a stapling device misfire during a robotic-assisted, laparoscopic roux-en-Y gastric bypass.

Methods:

While forming the gastric pouch during a routine robotic-assisted gastric bypass procedure, we encountered a linear stapling device misfire, which resulted in an incomplete closure and transection of the gastric pouch from the gastric remnant. Upper endoscopy was performed to identify the location of the defect. A second stapling device was utilized to complete the procedure. The gastric pouch staple line was oversewn in a two-layer fashion with a barbed, absorbable suture. A stapled, partial gastrectomy was performed along the gastric remnant defect. The remainder of the procedure was uneventful. Repeat upper endoscopy along with intra-operative leak testing verified closure of the gastric pouch defect. Fluorescein perfusion testing revealed no areas of malperfusion.

Results:

Successful closures of the staple line misfire defects were performed in a robotic-assisted, laparoscopic manner. The patient ultimately recovered well without any further complications. The faulty device was sent to the manufacturer for further evaluation.

Conclusion:

While uncommon, malfunctions of linear stapling devices can occur and must be corrected in a safe and reliable manner. The use of the robotic platform allows for greater dexterity and vision to perform this procedure and address any inadvertent complications.

https://vimeo.com/720864466/4d973b8356

V-122

SURGICAL MANAGEMENT FOR SEVERE MALNUTRITION DUE TO RECALCITRANT VOMITING AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY (LSG)

Revisional surgery

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Introduction:

Laparoscopic sleeve gastrectomy has been increasingly performed during the last decade to morbidly obese patients. It is considered a simple, safe and effective operation. However, a number of complications have been described, such as gastric leak, abscess, hemorrhage, GERD with stricture being the least common. The first line of treatment for stenosis is endoscopic dilatation. Revisional procedures include Heineke-Mikulicz's plasty, gastric bypass (GBP), seromyotomy and gastrectomy.

Method:

A 27-year-old woman was referred from another facility with cardinal symptoms of persistent vomiting and severe malnutrition. The patient had undergone LSG 3 years before presentation and symptoms had established gradually one year before presentation. BMI at presentation was 24. Pre-revisional endoscopy revealed a tubular stomach with stricture at the level of the incisura, which was confirmed in Upper GI fluoroscopy. Preoperative planning had to take into consideration correction of vomiting and sequelae, as well as the patient's wish not to regain weight.

Results:

The patient underwent laparoscopic one anastomosis gastric bypass (OAGB) with resection of the gastric remnant. The gastric sleeve was mobilised, the distal sleeved stomach including the stricture was resected, and the dilated proximal part of the sleeve was trimmed. A jejunal loop was anastomosed to the distal part of the gastric remnant 150 cm distal to the ligament of Treitz.

There was no evidence of leak on post-operative UGI Series and the patient was discharged on POD 3.

One year after revisional surgery the patient had BMI 22, no vomiting and excellent quality of life.

Conclusion:

Several revisional surgeries have been described for strictured sleeve gastrectomy at insicura. In non-smokers with persistent symptoms and severe malnutrition without GERD, OAGB seems to be a safe and effective alternative.

https://vimeo.com/537447610/8ff6f95dc0

V-123

SURGICAL REPAIR OF INCARCERATED VENTRAL HERNIA CONTAINING GASTRIC BAND PORT

Hernia surgery in the bariatric patient

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Introduction:

In the United States, the prevalence of obesity has increased by 11.9% in the last two decades, representing approximately 39 million more Americans who are at increased risk for obesity-related health conditions. Compared to alternative bariatric surgeries, laparoscopic adjustable gastric banding (LAGB) has higher reoperation rates, 4 - 24% at 5 years. Complications and reoperation rates increase as observation extends beyond 10 years. Complications may include intolerance, slippage, and band erosion. These considerations have led to a decline in LAGB placements. One very rare complication is abdominal herniation with entrapment of surgically placed hardware.

Objectives:

Our case represents the unique complication of a large incarcerated ventral hernia containing the gastric band port. We include video demonstration of a hybrid hernia repair with internal LAGB removal.

Methods:

The patient is a 61-year-old male with a BMI of 51.7, a 15-year history of LAGB, and an abdominoplasty who presented to the emergency room with a small bowel obstruction secondary to ventral hernia. The unique case finding is that on imaging, the port and tubing of the band were contained within the hernia defect. After a period of observation without clinical improvement, the patient was taken to the operating room for a gastric band removal.

Results:

The gastric band removal portion of the case was performed laparoscopically, while the hernia was repaired primarily in an open fashion. The band port and tubing were removed during the open repair portion of the procedure. No mesh was used as a foreign body as the band was in the hernia defect, increasing the chance of wound contamination.

Conclusion:

To our knowledge this is the first reported case of lap band port migration into a large incisional hernia. We demonstrate our hybrid approach to this unique presentation, which utilizes both laparoscopic band removal and an open ventral hernia repair in a concurrent setting.

https://vimeo.com/723017805/b39443e7a7

V-124

SURGICAL REVISION OF ROUX-EN-Y GASTRIC BYPASS FROM SLEEVE GASTRECTOMY

Revisional surgery

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Background:

Conversion of sleeve gastrectomy to Roux-en-Y gastric bypass can be sought due to multiple reasons such as suboptimal weight loss, persistent reflux like symptoms, or stricture of the gastric sleeve.

Objectives:

Here we discuss a patient who had previously undergone conversion to Roux-en-Y gastric bypass and had abdominal pain and malnutrition due to retained antrum.

Methods:

Single patient case review

Results:

The patient was a 48-year-old female with previous history of morbid obesity who underwent a sleeve gastrectomy and an outside hospital. She returned to the facility and was found to have a mid-sleeve stricture and this converted to a Roux-en-Y gastric bypass. Years later she presented to our institution and had complaints of persistent abdominal pain and was severely malnourished. She was started on total parenteral nutrition and underwent extensive workup which revealed a gastro-gastric fistula and internal hernia. The patient was then taken to the operating room where the internal hernia of the biliopancreatic limb was reduced and the Petersen defect repaired. We discovered that the previous sleeve gastrectomy had not been transected during the conversion operation and thus the patient had a retained antrum rather than gastro-gastric fistula. Once confirming the location of the gastrojejunostomy, we stapled across the sleeve gastrectomy and confirmed a patent anastomosis with intraoperative esophagogastroduodenoscopy. The patient underwent an upper gastrografin swallow study on post-operative day 1 and had resolution of her symptoms on follow up.

Conclusion:

During the conversion of a sleeve gastrectomy to Roux-en-Y gastric bypass, transection of the gastric pouch and the gastric remnant can lead to less frequency of post-operative complications such as anastomotic ulcers and severe abdominal pain.

https://vimeo.com/723018869/83e37f9df9

V-125

SURGICAL TREATMENT OF WEIGHT REGAIN AFTER LAPAROSCOPIC GASTRIC BAND REMOVAL DUE TO EROSION

Revisional surgery

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General Surgery, Evaggelismos General Hospital of Athens, Athens, Greece.

Introduction:

Laparoscopic adjustable gastric banding (LAGB) was a popular surgical option for obesity during the last decade. However, the necessity of reoperation is common as more than half of the patients require revisional surgery due to complications or suboptimal bariatric outcome. Most common major complications are band slippage, late port infection, band erosion and stomal obstruction. Preferable revisional procedures include band removal and any kind of gastric bypass (GB) or laparoscopic sleeve gastrectomy (LSG) performed as one or two step approach.

Methods:

A 37-year-old male presented with weight regain after LAGB which was removedsixyears after index operation due to erosion. Preoperative BMI was 50 and BMI at the time of the band removal was 40. Ten years following index operation he presented with weight regain and BMI 63. Preoperative gastroscopy revealed Z line at 39 cm and hourglass stomach secondary to stricture from band erosion. Upper GI series showed a bubble-like fundus due to the hourglass stomach.

Result:

The patient underwent laparoscopic one anastomosis gastric bypass. A long tubular pouch was made on the lesser curvature after meticulous dissection of the stricture. Anastomosis 3 cm wide to a loop of jejunum 250 cm distal to the ligament of Treitz was performed because of the severity of obesity.

Conclusion:

GB and LSG are the most common revisional procedures for weight regain or complications after LAGB. One anastomosis gastric bypass (OAGB) is an alternative solution in nonsmoking patients without GERD.

https://vimeo.com/537424713/7fe6f270c2

V-126

TECHNICAL CONSIDERATIONS IN LAPAROSCOPIC REPAIR OF MESOCOLIC HERNIAS (MEHE) AND REVIEW OF RADIOLOGICAL FINDINGS

Endoscopic and percutaneous interventional procedures

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Background:

Abdominal pain after Roux-en-Y gastric bypass (RYGB) can be an elusive entity that may require laparoscopy for diagnosis and treatment, specifically because symptoms are non-specific and radiographic findings are often subtle.

We are presenting a technical video for laparoscopic repair of a mesocolic hernia (MeHe) and review of the associated radiological signs. The index patient was 48-years-old and presented with colicky, postprandial pain and bloating four years after a retrocolic RYGB. CT scan showed swirling of mesenteric vessels and cephalad migration of small bowel loops into the lesser sac.

Methods:

Using 5 laparoscopic trocars for access, we reduced the Roux and biliopancreatic limbs from a large MeHe defect. The MeHe defect was closed with running, barbed, permanent 2-0 suture on the right side of the retrocolic Roux limb, and interrupted 2-0 silks on the left side.

Results:

The patient had an uneventful hospital course, was discharged home within 36 hours of surgery, and has been symptom-free for 3 months.

We have treated 7 additional patients who underwent similar repair of MeHe by our team in a 15-year span and identified radiographic findings (vascular and small bowel) that prompted intervention. Changes in vascular anatomy include swirling of mesenteric vessels and axial rotation of the SMA over the SMV; changes in small bowel may include crowding of small bowel loops cephalad to the transverse colon, migration of the jejuno-jejunostomy into the lesser sac, and displacement of small bowel anterior to the mesocolon.

Conclusion:

MeHe after retrocolic RYGB are often overlooked because of non-specific symptoms and subtle radiographic signs. A high index of suspicion should prompt laparoscopic exploration to prevent symptom recurrence and intestinal ischemia.

https://vimeo.com/723021261/17145735a4

V-127

TECHNIQUE FOR LAPAROSCOPY-ASSISTED ERCP AFTER GBP REVISION OF SLEEVE GASTRECTOMY

Endoscopic and percutaneous interventional procedures

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Background:

Bariatric surgery is associated with an increased risk of cholelithiasis and its complications. Specifically, the management of choledocholithiasis after gastric bypass (GBP) surgery is challenging and often limited to laparoscopy-assisted Endoscopic Retrograde Cholangiopancreatography (ERCP). GB revision of sleeve gastrectomy (SG) is becoming more prevalent in the setting of inadequate weight loss and severe acid reflux symptoms. Unlike standard GBP, GBP revision of SG results in a very small sleeve stump that may not be amenable to a laparoscopic assisted ERCP. Therefore, the present video aims to demonstrate the author's technical approach for a laparoscopic assisted ERCP in patients with GBP revision of SG through a case study. Pre-operative laboratory values, pre-operative imaging, port placements, and each steps of the procedure are reviewed in a clear and concise manner. In summary, after placing three 5mm ports, one 12 mm port, and one 15 mm port, the left side of the Roux-limb was identified and mobilized revealing the distal sleeve stump underneath. The stump was then carefully mobilized in a circumferential fashion. Two stay sutures were placed on either side of the staple line. The stay sutures were exteriorized. A gastrostomy was created with an energy device at the distal tip of the stump. The stump was then elevated by decreasing the intra-abdominal pressure and pulling on the stay sutures. The sleeve stump did not need to reach the abdominal wall in order to successfully introduce the 15 mm trocar. A sterile sheet was placed over the surgical field and a small opening was fashioned over the 15 mm port for ERCP access. ERCP was performed with successful retrieval of multiple stones and sphincterotomy. Next, the 15 mm trocar was removed and the gastrostomy was closed with a stapling device. Finally, the cholecystectomy was performed in the usual fashion. The patient tolerated the procedure well, her symptoms gradually resolved, laboratory values normalized, and the patient was discharged on her second post-operative day. In conclusion, patients that need common bile duct exploration and have a GBP from prior SG, it is still technically possible to perform a laparoscopy assisted ERCP by freeing the distal sleeve and using the tip of it for trocar entry.

https://vimeo.com/723023648/6bb9fccb4e

V-128

THE FUTILE BARIATRIC JOURNEY: FROM SLEEVE TO BYPASS AND BACK AGAIN

Revisional surgery

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Introduction:

The patient is a 33-year-old female, weighing 133.8 kg, who had originally undergone sleeve gastrectomy (SG) and later conversion to Roux-en-Y gastric bypass (RYGB) for insufficient weight loss. Though she had lost some weight following both these procedures, she had regained weight and desired further weight loss. She presented to us with the primary complaint of a lack of restriction. A 3D CT showed an appropriately sized pouch so an adjustable gastric band was placed around the pouch. This was removed shortly thereafter due to a band infection. She continued to complain of lack of restriction and developed diarrhea related to the RYGB. We planned to revise the RYGB to a duodenal switch in a staged manner, with initial reversal of the RYGB to SG.

Methods:

In this video we present the operative technique for reversal of RYGB to SG in a patient with a prior SG.

Results:

The patient's post-operative course was marked by dysphagia that required repeated endoscopic dilatations. However, there was only modest reduction in her weight.

Conclusions:

This video demonstrates the operative technique for reversal of RYGB to SG in a patient with prior SG. It raises several important learning and discussion points regarding management of patients with an appropriately sized gastric pouch and inadequate weight loss after RYGB, the importance of defining the anatomy of a pouch prior to revisional surgery and the futility of bariatric surgery in patients with underlying food addictions that are not managed.

https://vimeo.com/723024435/892863bfe3

V-129

THE USE OF INTRAOPERATIVE IMPEDANCE PLANIMETRY TO AVOID HELLER MYOTOMY IN A PATIENT WITH PSEUDOACHALASIA SECONDARY TO ADJUSTABLE GASTRIC BANDING DEVICE

Revisional Surgery

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Background:

Secondary achalasia, also known as pseudoachalasia, is related to any disease process that causes dysfunction of the esophageal muscular system, which results in many debilitating symptoms. The most common symptom patients present with is dysphagia. Out of the many causes of pseudoachalasia, post-gastric banding is among one of the rarest, but notable.

Objectives:

To demonstrate the utility of intraoperative impedance planimetry to evaluate esophageal function after removal of laparoscopic gastric banding device.

Methods:

Intraoperative impedance planimetry was used after removal of a gastric banding device to evaluate both the esophageal motility as well as the distensibility and diameter of the lower esophageal sphincter.

Results:

A patient with a gastric banding device complained of dysphagia and regurgitation. Preoperative impedance planimetry indicated concerns for achalasia, and thus a Heller myotomy was planned after removal of the gastric banding device. Intraoperative impedance planimetry revealed normal lower esophageal sphincter distensibility and diameter. The Heller myotomy was deemed unnecessary, and the case proceeded with completion of a gastrojejunostomy with roux-en-y reconstruction.

Conclusion:

Intraoperative impedance planimetry was used to avoid performing a Heller myotomy in a patient with pseudoachalasia secondary to gastric banding device.

https://vimeo.com/720840207/c7d282383a

V-130

THREE-PORT ROBOTIC SLEEVE GASTRECTOMY: PUSHING THE BOUNDARIES OF BARIATRIC SURGERY

Robotic bariatric surgery

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[1]Bariatric Surgery, Tallahassee Memorial Hospital, Tallahassee, United States; [2]Bariatric Surgery, Tallahassee Memorial Hospital, Tallahassee, United States; [3]Florida State University, Tallahassee, United States.

Background:

Laparoscopic sleeve gastrectomy (LSG) is currently one of the most common bariatric procedures employed for the treatment of morbid obesity. The advent of robotic surgery establishes a new age of minimally invasive surgery that is still in its infancy. The robotic approach is uniquely desirable in the field of bariatrics given the physically demanding nature of surgical procedures in the morbidly obese population. Currently established guidelines for robotic-assisted sleeve gastrectomy (RSG) require the use of four or five ports. At our institution, we use a novel approach by performing RSG using three-ports with successful outcomes. The aim of this video is to show the safety and efficacy of the three-port RSG.

https://vimeo.com/724519867/4ca3efa9f7

V-131

TOTAL GASTRECTOMY TO THE RESCUE

Endoscopic and percutaneous interventional procedures

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Background:

Obesity rates continue to rise in the US as well as worldwide. With the increasing number in bariatric surgeries, post-operative complications and failure to achieve the desired goals lead to a parallel increase in revisional surgeries to address these outcomes. When endoscopic or minor surgical interventions fail to treat these complications and the patient's quality of life is reduced, the only definite option may be a completion of gastrectomy with esophagojejunostomy reconstruction.

Objective:

To reveal the technical aspects of this complex procedure.

Methods:

We present the case of a 50-years-old male patient with multiple obesity-related comorbidities, and a vast surgical history which began with a Roux-en-Y gastric bypass 15 years ago. He complained of chronic abdominal pain, and presented total oral and G-tube feed intolerance, for which he was TPN dependent. He underwent multiple endoscopic procedures with no resolution of symptoms. The plan was made to complete the gastrectomy and perform a hand-sewn esophagojejunostomy reconstruction.

Results:

Surgery was performed without complications. An upper gastrointestinal series demonstrated patent anastomosis and the diet was advanced to clear liquids. The patient was discharged on post-operative day 7. On 30 day follow up, the patient reported improved oral tolerance to liquids and some solids.

Conclusion:

The increase in bariatric surgeries has led to an increase in the number of complication-related interventions. In patients with recalcitrant symptoms, completion gastrectomy with EJ reconstruction may be the ultimate definite option.

https://www.youtube.com/watch?v=wb2v4FrAmSs

V-132

TOTAL LAPAROSCOPIC MANAGEMENT OF INTERNAL HERNIA IN 34-WEEK PREGNANT WOMAN

Post-operative complications

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Clinical Presentation and Indication for Surgery:

Internal hernias after Roux-en-Y gastric bypass pose a unique challenge in diagnosis and in surgical management. Considering that the rates of bariatric surgery in Canada are ever-increasing, combined with the fact that roughly half of the patients undergoing this bariatric surgery are women of reproductive age, the number of complications from internal hernias during pregnancy are likely to rise. Management in this setting is associated with a high risk of laparotomy and laparoscopic conversion.

Operative Procedure:

In this video, we describe the management of a 35-year-old woman presenting with clinical and radiologic signs consistent with an internal hernia at 34 weeks of gestation. We demonstrate that the laparoscopic approach to intra-operative diagnosis and repair of internal hernias is technically feasible even during the late stages of pregnancy.

https://vimeo.com/720824568/7c5db07d30

V-133

TRAUMATIC PARAHIATAL HERNIA AFTER SLEEVE GASTRECTOMY: A CASE REPORT

Hernia surgery in the bariatric patient

M. Hany Ashour.

General Surgery, Medical Research Institute, Alexandria University, Alexandria, Egypt.

Introduction:

We present a case of acute parahiatal hernia after sleeve gastrectomy operated in our center whose genesis could be due to trauma during dissection around the hiatus.

Methods:

A 36-year-old woman with a BMI of 38 kg/m2 had laparoscopic sleeve gastrectomy. On the second day post-operatively, she complained of severe back pain, and she demonstrated an elevated heart rate with dyspnea. CT revealed a collapsed left lung and herniation of the small bowel loops through an opening lateral to the hiatus. We decided to perform an immediate laparoscopic surgical exploration using the same trocar sites for the initial SG.

Results:

During the laparoscopic exploratory examination, we observed congested bowel loops displaced upwards through a left diaphragmatic intercrural defect and a severely congested spleen with a dusky color.

The following procedures were performed to treat these findings:

- Complete reduction of the small bowel, closure of the intercrural defect and narrowing of the esophageal hiatus.
- Applying composite mesh, around the esophageal hiatus.
- Inserting a left intercostal chest tube.

On the first day post-operatively:

- Tachycardia was resolved.
- Chest X-ray revealed inflation of the left lung.

On the second day post-operatively:

The intercostal tube was removed, and CT revealed lung inflation, minimal effusion, and complete resolution of hernia. She was discharged and prescribed a regular diet. After two weeks, she was healthy with no complaints.

Results:

We believe that the cause is ascribed to trauma to this area during dissection around the hiatus which was then confirmed by careful revision of the video of the LSG surgery, where a defect was initially overlooked. Parahiatal hernia is a rare type of diaphragmatic hernia occurring as an extra hiatal defect in the crural muscle lateral to the esophageal hiatus. Diaphragmatic hernia after bariatric surgery is not familiar but may be lethal if strangulation of viscera occurs. Reinforcement of hiatal hernia repair with mesh aimed to decrease the incidence of recurrence. We used a composite mesh for hiatal hernia repair.

Conclusion:

Although this complication is rare and difficult to diagnose in the immediate post-operative period, surgeons must be aware of this condition and consider it in the differential diagnosis of patients with post-operative back pain, dyspnea, and tachycardia. We recommend meticulous dissection around the the hiatus and careful examination.

https://vimeo.com/720860392/9db04f32ab

V-134

UNUSUAL CASE OF PETERSEN'S SPACE HERNIA CAUSING ROUX LIMB TWIST AND GASTROJEJUNAL ANASTOMOTIC STRICTURE

Revisional surgery

L. Poliakin[1], A. Wang[2], B. Hui[3], N. Sundaresan[4], T. Kuwada[4], K. Gersin[4].

[1]Los Robles Regional Medical Center, Thousand Oaks, United States; [2]Atrium Health Carolinas Medical Center, Charlotte, United States; [3]Chesapeake Regional Healthcare,Chesapeake, United States; [4]Atrium Health Carolinas Medical Center, Charlotte United States.

Background:

Internal hernias have been described in 0-5% of post gastric bypass patients. Internal hernias can be difficult to detect radiographically, since they can be transient. Patient is a 36-year-old female (174 lb, BMI 28 kg/m2) with history of Laparoscopic Roux-en-Y gastric bypass 10 years ago who has chronic abdominal pain and dysphagia. There was a kink at the area of the pouch on upper endoscopy. There was evidence of internal hernia on CT scan.

Methods:

The video demonstrates technique for laparoscopic reduction and repair of incarcerated Petersen's space and jejunojejunostomy internal hernias, and revision of gastrojejunostomy stricture with Roux limb twist.

Results:

Post-operatively, the patient did well and was discharged to home on post-operative day 2. She was tolerating her diet and did not have further episodes of dysphagia.

Conclusion:

Petersen's space hernia has the potential of causing Roux limb twist, which can ultimately result in gastrojejunal anastomotic stricture. High index of clinical suspicion along with CT findings of internal hernia should prompt early operative intervention. To reduce the incidence of internal hernias, all mesenteric defects should be closed with nonabsorbable sutures.

https://vimeo.com/723028158/80e1c1afc8

V-135

UNUSUAL CASE OF ROUX LIMB OBSTRUCTION FOLLOWING ROUX-EN-Y GASTRIC BYPASS (RYGB)

Endoscopic and percutaneous interventional procedures

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Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates.

Background:

The anti-obstruction stitch (also known as Brolin stitch) is a seromuscular stitch placed immediately adjacent to the jejunojejunal (JJ) anastomosis. It effectively aligns the anastomosis maintaining its patency and prevents kinking of the bowel.

Objectives:

Describe an unusual case of Roux limb obstruction following Roux-en-Y gastric bypass surgery (RYGB) secondary to incorrect placement of the Brolin stitch.

Methods:

A 45-year-old female presented to the bariatric surgery clinic complaining of worsening gastroesophageal reflux disease despite maximal medical therapy. Her surgical history is significant for a sleeve gastrectomy performed four years prior to presentation. Upper endoscopy showed grade C esophagitis and severe reflux. Given those findings, the patient was scheduled for a laparoscopic conversion of sleeve gastrectomy to RYGB with hiatal hernia repair. We had no intraoperative complications. Patient had an unremarkable recovery and was discharged on POD 3 after tolerating phase appropriate diet. Seventeen days following discharge, the patient presented to the emergency department complaining of worsening lower abdominal pain, nausea and vomiting. CT scan of the abdomen showed partial small bowel obstruction with a transition point proximal to the JJ anastomosis. Upper endoscopy showed a twist in the Roux limb proximal to the widely open JJ anastomosis. A diagnostic laparoscopy was scheduled and showed jejunal narrowing right above JJ anastomosis where the anti-obstruction stitch was placed. In addition to some adhesions, the bowel was found twisted medially creating a partial bowel obstruction. We revised the JJ anastomosis, by distalizing the Roux limb and anastomosing it to the common channel.

Results:

Post-operative recovery was unremarkable. Contrast swallow study on POD 1 showed no evidence of an anastomotic leak with good drainage of the contrast into the common channel. A clear liquid diet was started and patient was discharged on POD 4. At three months follow up, she had no symptoms of reflux or obstruction.

Conclusion:

While the Brolin stitch may prevent obstruction and kinking of the Roux limb following RYGB surgery, incorrect suture placement may contribute to twisting and subsequently obstruction of the limb. Careful attention should be sought when placing this stitch. As demonstrated, early small bowel obstruction following RYGB can be successfully managed laparoscopically.

https://vimeo.com/723029186/bf33738975

V-136

UNUSUAL CAUSES OF INTESTINAL OBSTRUCTION IN THE BARIATRIC POPULATION: PRESENTATION OF THREE CASES

Endoscopic and percutaneous interventional procedures

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[1]The Obesity Clinic at Hospital General Tláhuac, Mexico City, Mexico; [2]Bariatric and Metabolic Surgery, Hospital Central Militar, Mexico City, Mexico; [3]Surgery, Hospital Central Militar, Mexico, Mexico.

Background:

The most common cause of intestinal obstruction after Roux-en-Y gastric bypass (RYGB) is internal herniation. Bezoars and intussusception are rare causes of obstruction in this setting, with very few cases reported in literature. Obstruction caused by migrated balloons is a rare entity with very few cases reported.

Objective:

To report three cases of intestinal obstruction in a bariatric setting managed successfully by laparoscopy.

Methods:

Case Report (video): The first case: a 31-year-old female patient with history of RYGB 3 years earlier. Presented to hospital with an obstructive syndrome, an intussusception was diagnosed and managed by laparoscopy with success. The second case: 37-year-old female patient who underwent intra-gastric balloon placement 1 year before admission and failed to show up at 6 months for extraction. Presented to hospital with an obstructive syndrome; migration and impaction distally of the balloon was diagnosed and managed successfully by laparoscopy. The final case: 39-year-old female patient with RYGB history 9 year before admission with an obstructive syndrome; at laparoscopy an 8 cm phytobezoar impacted in the ileum was found. It was extracted manually using a 5 cm disposable wound retractor in the umbilical site.

Results:

Two cases were successfully managed by laparoscopy and the final case was resolved using a small disposable retractor at the umbilicus for extracorporeal extraction. No patients presented early or late complications.

Conclusions:

Intestinal obstruction in the bariatric setting, including uncommon causes, can be resolved safely in a minimally invasive fashion with little or no morbidity.

https://vimeo.com/723030088/3e53012b7c

V-137

WHY GASTRIC BYPASS SHOULD NOT BE DONE ON SMOKERS: LIFE-THREATENING BLEEDING MARGINAL ULCER ERODING TO THE REMNANT STOMACH

Should we offer surgery to patients who smoke or drink excessive alcohol?

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Background:

Laparoscopic Roux-En-Y gastric bypass LRYGBP is one of the most commonly performed bariatric procedures. Smoking increases the risk of thromboembolic events and marginal ulcers formation after gastric bypass. Smoking with marginal ulcers could lead to serious bleeding or perforation, both could be life-threatening. Smokers tend to take the risk lightly despite advice. Should gastric bypass be offered to a smoker?

Method:

In this video, we present a case of post gastric bypass life-threatening upper GI bleeding from a marginal ulcer eroding to remnant stomach and tributaries of left gastric artery caused by smoking, and its acute management.

Results:

A 69-year-old female. heavy smoker. Had LRYGBP in another center 9 years prior to her presentation. She was diagnosed with marginal ulcer on endoscopy 4 months prior to her presentation to us and she was put on medical treatment. She was advised to stop smoking; however, she did not comply.

She presented to our hospital with melena and hematemesis with dropped Hemoglobin. She was admitted through A&E and resuscitated. Urgent endoscopy was performed showing bleeding marginal ulcer with large clots and fresh blood. Could not definitely control bleeding.

Patient collapsed in the ward, revived after extensive resuscitation. Patient was shifted for emergency surgery.

Procedure was performed laparoscopically. The bleeding ulcer was found eroding to the remnant stomach, the lesser omentum and to tributaries of left gastric artery. The ulcer was oversewn, hemostasis was secured and the gastrojejunostomy was resected. A neo-gastrojejunostomy was created. Patient recovered well from the procedure with no complications or rebleed.

Conclusion:

Acute management of bleeding marginal ulcers could be challenging. Smoking after gastric bypass could lead to life-threatening complications. Gastric bypass should not be offered to active smokers.

https://vimeo.com/723032065/3d6b2f4a02

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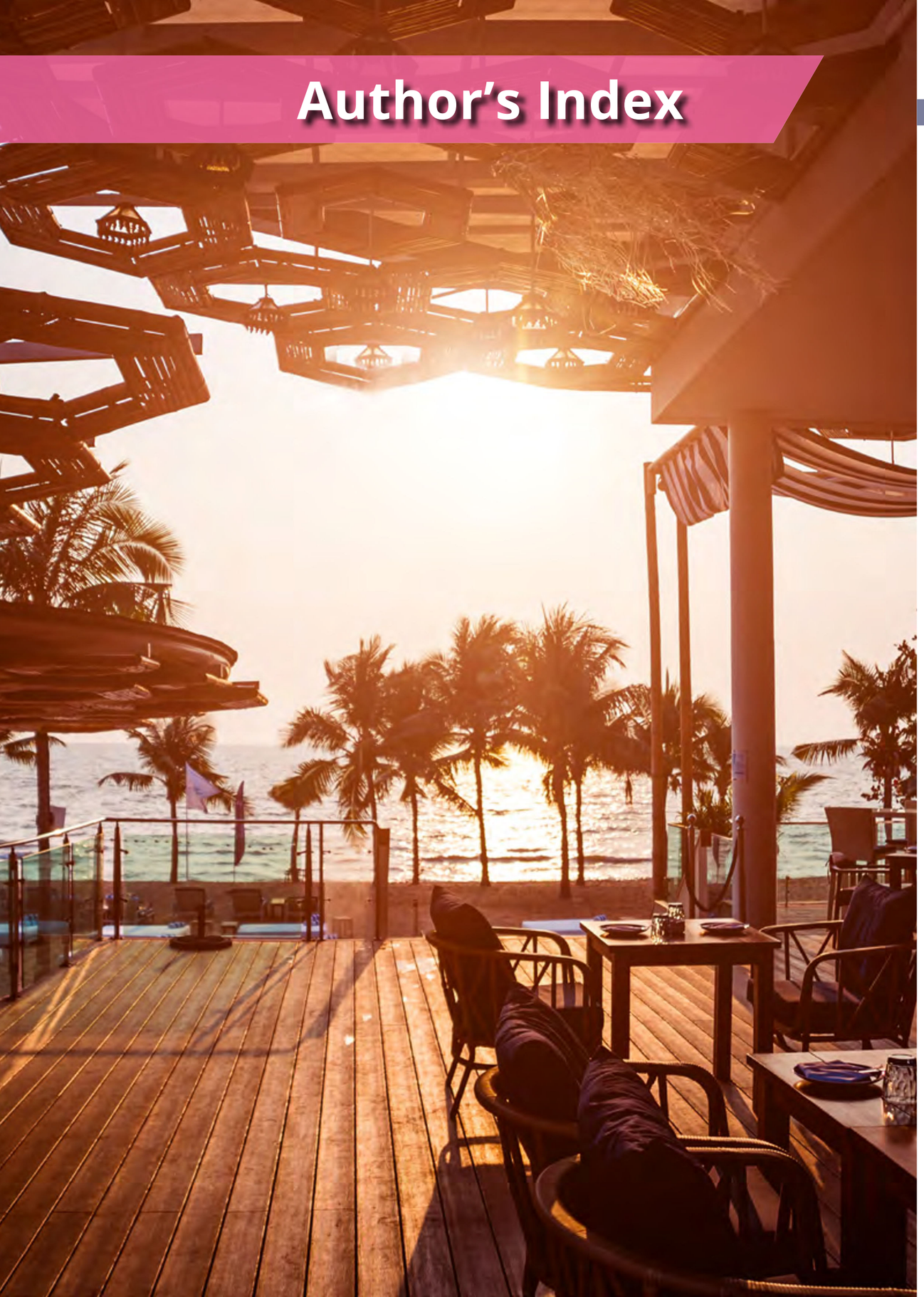
Author's Index



B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z