OAGB vs SADI
The Best Option is SADI

Rami Lutfi, MD FACS FASMBS DABOM
Clinical Professor of Surgery; Chicago Medical School
President and CEO Chicago Institute of Advanced Surgery

OAGB vs SADI
The Best Option is SADI
Obviously after sleeve & GERD

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Chicago Institute of Advanced Bariatrics

IFSO North America Chapter Symposium
ASMBS/CABPS

Up-to date on the latest in North America

Day and time to be defined

Chair: **Jaime Ponce, MD** (IFSO North America Chapter President)
Moderators: **Samer Mattar, MD** (IFSO North America Chapter Vice-President)
Pierre Garneau, MD (IFSO North America Member-at-Large Canada)

Objectives:

1. Understand the new use of combined obesity medications with surgery
2. Describe the importance of esophageal function in bariatric surgery
3. Learn about new Canadian guidelines for the management of obesity
4. Recognize experience in North America with one anastomosis techniques
5. Understand implementation limitations of one anastomosis procedures in the U.S.

Agenda:

5 minutes — **Introduction**
Jaime Ponce MD (Chattanooga TN, USA), **Samer Mattar MD** (Houston, TX, USA)

15 minutes — **Combination use of Obesity Medications with Bariatric Surgery to enhance outcomes**
Teresa LaMasters, MD (Des Moines, IA, USA)

15 minutes — **Esophageal function: an under-evaluated component of Bariatric surgery**
Marina Kurian, MD (New York, NY, USA)

15 minutes — **New Canadian guidelines for the management of Obesity**
Pierre Garneau, MD (Montréal, QC, Canada)

15 minutes — **MBSAQIP data on OAGB and SADI**
Omar Ghanem, MD (Rochester, MN, USA)

20 minutes — **Debate: When to use OAGB vs SADI?**
Case scenarios: High BMI, sleeve with weight recurrence, GERD, etc.
Ninh Nguyen, MD (Irvine, CA, USA), **Ann Rogers, MD** (Middletown, PA, USA)
The best option is OAGB
Helmuth Billy, MD (Ventura, CA, USA)
The best option is SADI
Rami Lutfi, MD (Chicago, IL, USA)

5 minutes — **Final Discussion**
Adjourn

Chicago Institute of Advanced Surgery

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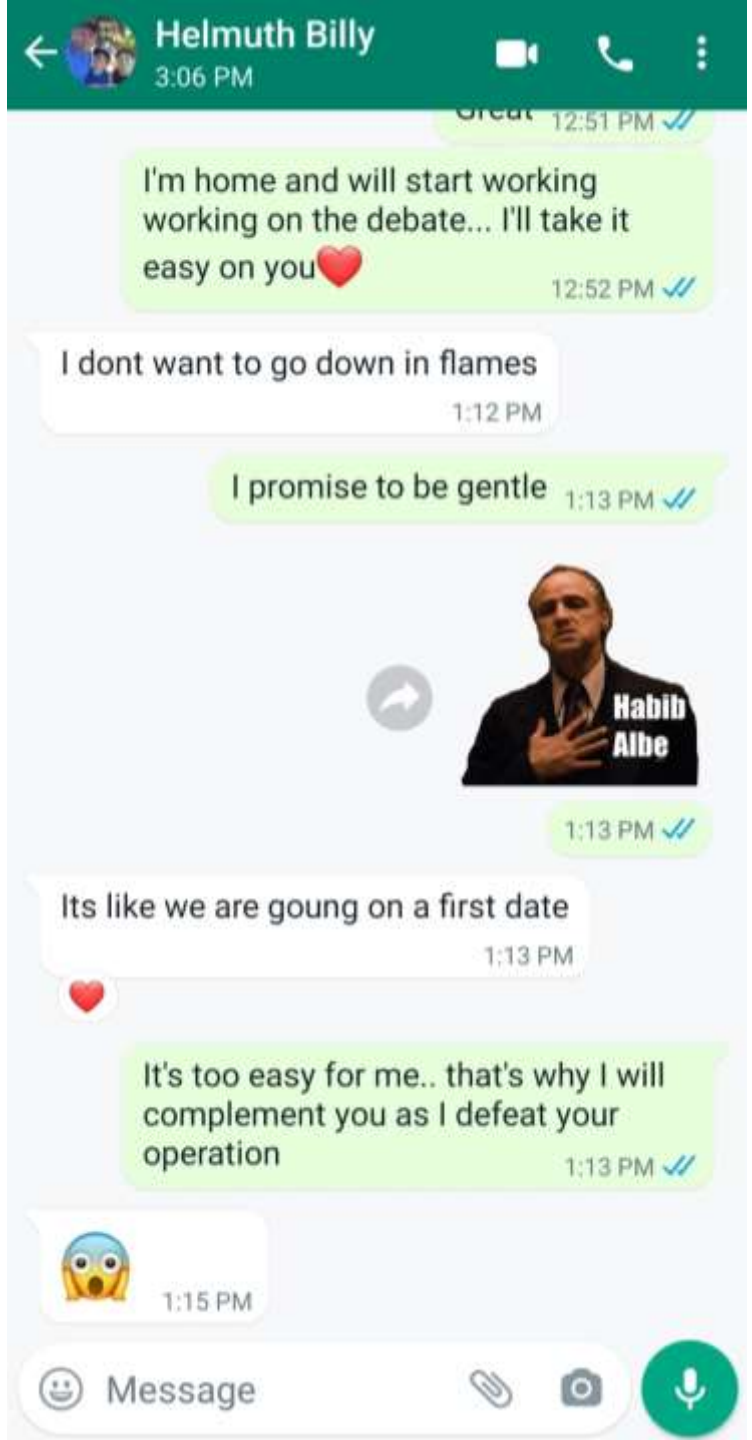
Disclosures:

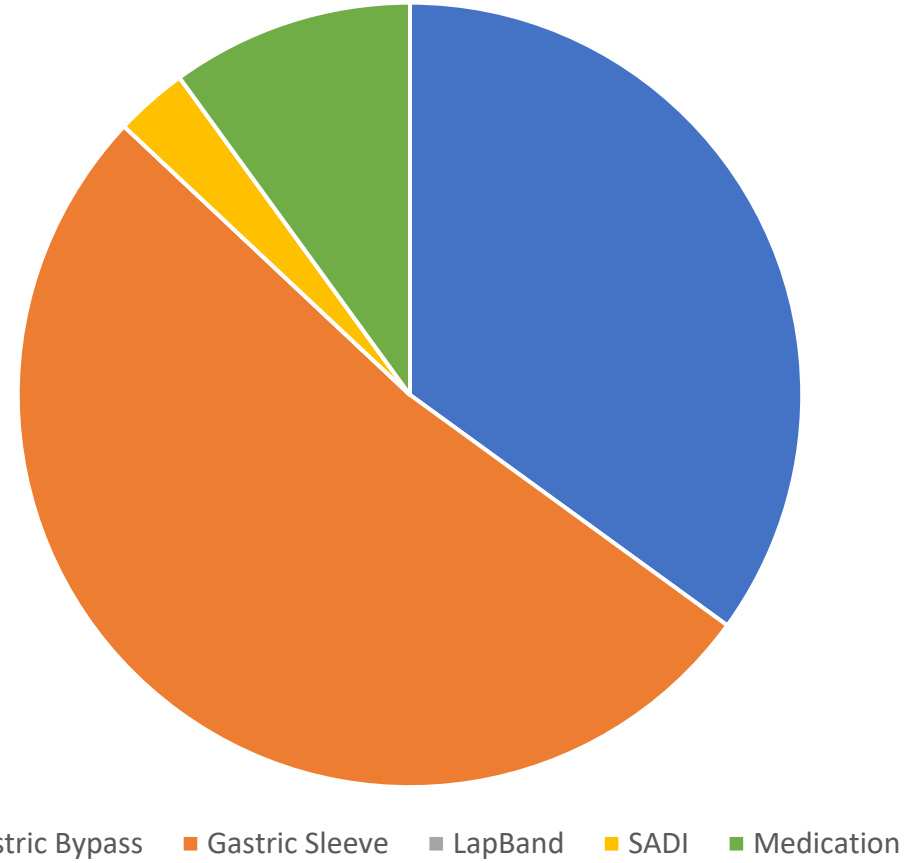
- Consultant:
  - Medtronic
  - Johnson & Johnson
  - Gore
  - Storz
  - ConMed
- Educational Grant:
  - Gore
- Medical Advisor:
  - Carrum Health


Helmuth Billy
3:06 PM
12:51 PM
I'm home and will start working working on the debate... I'll take it easy on you❤️
12:52 PM
I dont want to go down in flames
1:12 PM
I promise to be gentle
1:13 PM
Habib Albe
1:13 PM
Its like we are goung on a first date
1:13 PM
❤️
It's too easy for me.. that's why I will complement you as I defeat your operation
1:13 PM
1:15 PM
Message

Disclosures:

- I was on the Executive Council when the vote occurred
- I started performing OAGB in my practice (the right way though!)

My Practice Today



Obesity Surgery, 11, 276-280

The Mini-Gastric Bypass: Experience with the First 1,274 Cases

Robert Rutledge, MD, FACS

The Cent

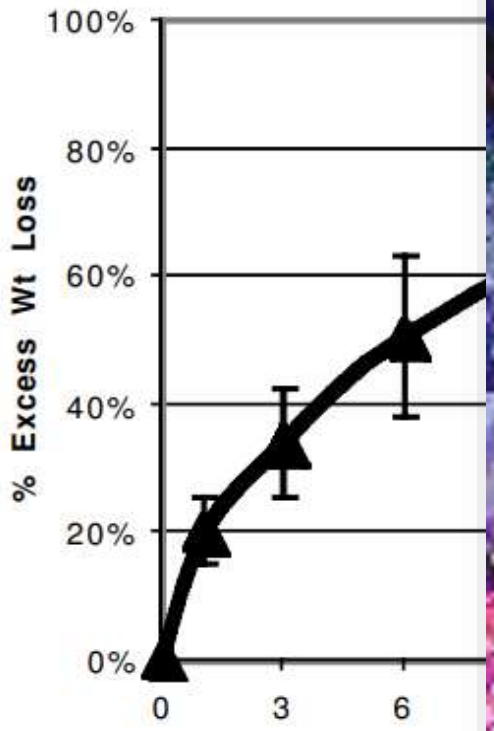


Figure 2. Percent ex
(mean±SD).

ution of medical illnesses

em Completely Resolved After Operation (%)
90%
92%
90%
88%
93%
100%
77%
89%
72%
81%

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Surgery for Obesity and Related Diseases 3 (2007) 37–41

SURGERY FOR OBESITY AND RELATED DISEASES

Original article

Surgical revision of loop ("mini") gastric bypass procedure: multicenter

Complications and revisions

Pt. No.	Complication	Surgery
1	Bile reflux gastritis	
2	Malnutrition	
3	Weight gain	
4	Intractable marginal ulcer	
5	Intractable marginal ulcer	
6	Bile reflux gastritis	
7	Stricture at G-J, hepatic failure	
8	Intractable marginal ulcer, malnutriti	
9	Anastomotic leak at G-J, small bow	
10	Bile reflux gastritis	
11	Bile reflux gastritis, malnutrition	
12	Bile reflux gastritis, malnutrition	
13	Bile reflux gastritis	
14	Bile reflux gastritis	
15	Bile reflux gastritis, weight gain	
16	Bile reflux gastritis, malnutrition	
17	Bile reflux gastritis	
18	Bile reflux gastritis	
19	Bile reflux gastritis	
20	Bile reflux gastritis	
21	Bile reflux gastritis	
22	Bile reflux gastritis	
23	Intractable marginal ulcer	
24	Malnutrition	
25	Anastomotic leak at G-J	
26	Anastomotic leak at G-J, bile reflux	
27	Malnutrition	
28	Bile reflux gastritis	
29	Bile reflux gastritis, marginal ulcer	
30	Bile reflux gastritis	
31	Bile reflux gastritis, malnutrition	
32	Bile reflux gastritis	

= patient number; RYGB = Roux-en-Y gastric bypass; G-J = gastrojejunostomy.

Conclusion

The number of complications and the revision rate after the MGB procedure have clearly been underreported. In light of these findings, several possible steps could be undertaken. A large randomized trial comparing MGB and RYGB with close follow-up is one option and should be undertaken before widespread adoption of the loop procedure. Alternatively, abandonment of the technique in favor of the more established RYGB procedure is a justifiable interpretation of the above result, because the claim that the ease and lower complexity of the single anastomotic MGB procedure makes it worthwhile has been refuted by the results of the present study, documenting a significant concern about the complications of loop anatomy. A third option, and one that has significant potential value for the growing specialty of bariatric surgery, is the creation of a national registry to record complications and the need for revisional surgery for the MGB procedure and other nontraditional bariatric procedures. This would allow a broader collection of data and give additional insight into the need for revision after the MGB procedure.

Obesity Surgery (2020) 30:4715–4723
https://doi.org/10.1007/s11695-020-04933-2

ORIGINAL CONTRIBUTIONS

Single Anastomosis Duodeno-ileostomy (SADI-S) Versus One Anastomosis Gastric Bypass (OAGB-MGB) as Revisional Procedures for Patients with Weight Recidivism After Sleeve Gastrectomy: a Comparative Analysis of Efficacy and Outcomes

Moataz Bashah[1,2] · Ammar Aleter[1] · Jawher Baazaoui[1] · Ayman El-Menyar[3,4] · Antonio Torres[5] · Asaad Salama[1]

Received: 28 June 2020 / Revised: 13 August 2020 / Accepted: 14 August 2020 / Published online: 26 August 2020

Abstract

Purpose 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).

Materials and 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 OAGB-MGB. However, further prospective larger studies are needed.

Table 1 Demographic, anthropometric, complications, and outcome data of OAGB-MGB patients

Gender (male:female)	1: 6
Age (mean ± standard deviation)	37.83 ± 9.36
No. of years follow-up	3.8 ± 1.4
Weight (kg)	
Before LSG	133 ± 27.8
Before revisional procedure	114.2 ± 21.1
1 year after revision	92.2 ± 16.5
	(p value 0.0001)
BMI	
Before LSG	52.32 ± 11.43
Before revisional procedure	43.6 ± 7.4
1 year after revision	35.3 ± 6.5
	(p value 0.0001)
TWL% post-revisional procedure	
At 1 year	21.6 ± 8.9
At 18 months	21.2 ± 11.0
	(p value 0.69)
EWL% post-revisional procedure	
At 1 year	53.1 ± 22.6
At 18 months	52.1 ± 27.9
	(p value 0.68)
Postoperative complications (n)	
Staple line leak	1 (converted to RYGB)
Anastomotic ulcer	3
Bile reflux	3 (1 converted to RYGB)
De novo GERD	3
Nutritional deficiency	1
Revisional surgery	2 (converted to SADI-S)
Mortality	0

Table 3 Demographic, anthropometric, complications, and outcome data of patients who underwent SADI-S as revisional procedure

Gender (male:female)	2: 5
Age (mean ± standard deviation)	38.0 ± 9.0
BMI	
Before LSG	50.43 ± 8.54
Before revisional procedure	43.7 ± 7.1
1 year after revision	34.3 ± 6.1
	(p value < 0.0001)
TWL% post-revisional procedure	
At 6 months	16.4 ± 4.76
At 12 months	20.8 ± 6.0
	(p value < 0.001)
EWL% post-revisional procedure	
At 6 months	40.9 ± 15.9
At 12 months	51.3 ± 18.8
	(p value < 0.001)
Postoperative complications (n)	
Abdominal collection	1
Steatorrhea	6
Nutritional deficiency	1
Mortality	0

Chicago Institute of Advanced Surgery

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Surgery for Obesity and Related Diseases 16 (2020) 1060–1066

SURGERY FOR OBESITY AND RELATED DISEASES

Original article

Short- to medium-term results of single-anastomosis duodeno-ileal bypass compared with one-anastomosis gastric bypass for weight recidivism after laparoscopic sleeve gastrectomy

Marlon de la Cruz, M.D.[a], Martin Büsing, M.D.[a], Radostina Dukovska, M.D.[a], Antonio José Torres, M.D., Ph.D.[b], Markus Reiser, M.D.[c,*]

[a]*Department of Surgery, Klinikum Vest GmbH, Knappschaftskrankenhaus Recklinghausen, Recklinghausen, Germany*
[b]*Department of Surgery, Hospital Clínico San Carlos, Universidad Complutense de Madrid, Madrid, Spain*
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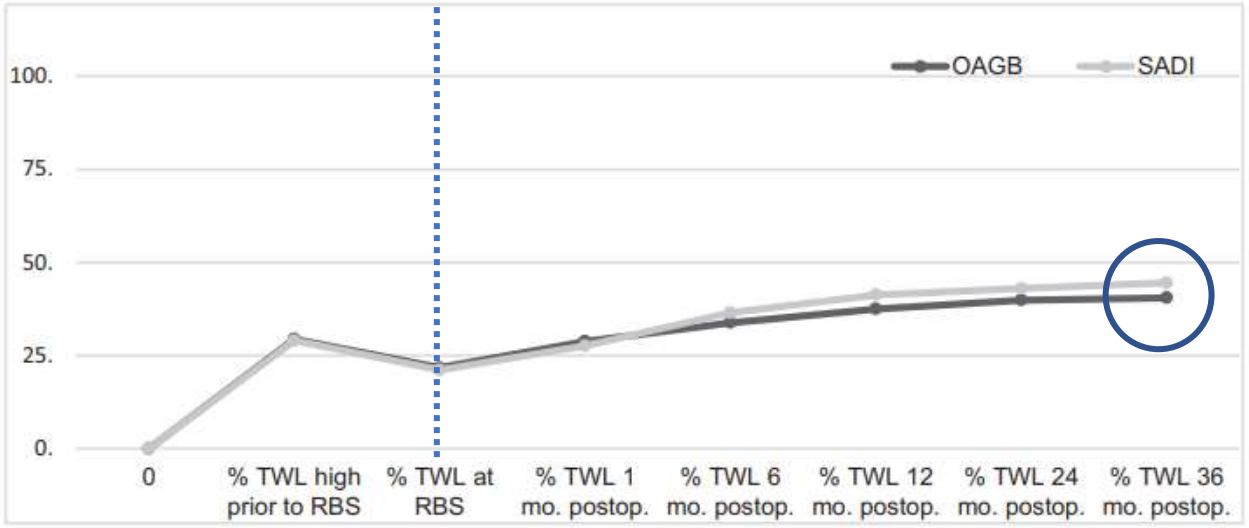
Received 27 December 2019; accepted 9 April 2020

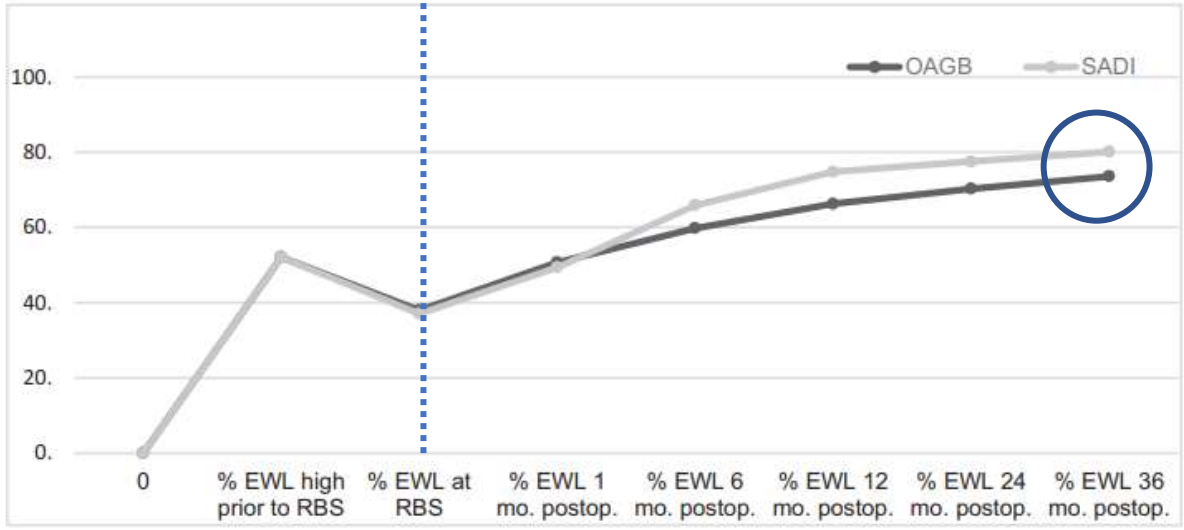
Revisional bariatric procedures performed between 2013 and 2018

	2013	2014	2015	2016	2017	2018
OAGB	4	8	13	3	7	9
SADI	0	1	5	11	11	13
RYGB	13	1	3	13	13	2
SASI	0	0	0	0	2	58

OAGB = one-anastomosis gastric bypass; SADI = single-anastomosis duodenoileal bypass; RYGB - Roux-Y gastric bypass; SASI = single-anastomosis sleeve ileal bypass.

[illegible] weight loss for SADI though this did not reach statistical significance. Substantial differences concerning surgery time and complications between the 2 procedures were not observed. (Surg Obes Relat Dis 2020;16:1060–1066.)





	Peak post LSG	at RBS	1 mo. postop.	6 mo. postop.	12 mo. postop.	24 mo. postop.	36 mo. postop.
%TWL OAGB	29.4±10.9	21.7±11.7	28.8±9.5	33.8±9.2	37.5±10.1	39.9±10.1	40.5±9.7
%TWL SADI	29±9.8	21.1±10.2	27.6±9.3	36.5±10.2	41.3±10.2	43±11.6	44.5±12

	Peak post LSG	At RBS	1 mo. postop.	6 mo. postop.	12 mo. postop.	24 mo. postop.	36 mo. postop.
%EWL OAGB	52.1±19.2	38±20.3	50.7±16.8	59.8±15.8	66.3±18.5	70.3±17.9	73.6±17.9
%EWL SADI	52.1±15.9	37.1±15.4	49.4±13.9	65.9±16.5	74.8±15.3	77.5±16.8	80.1±16.3

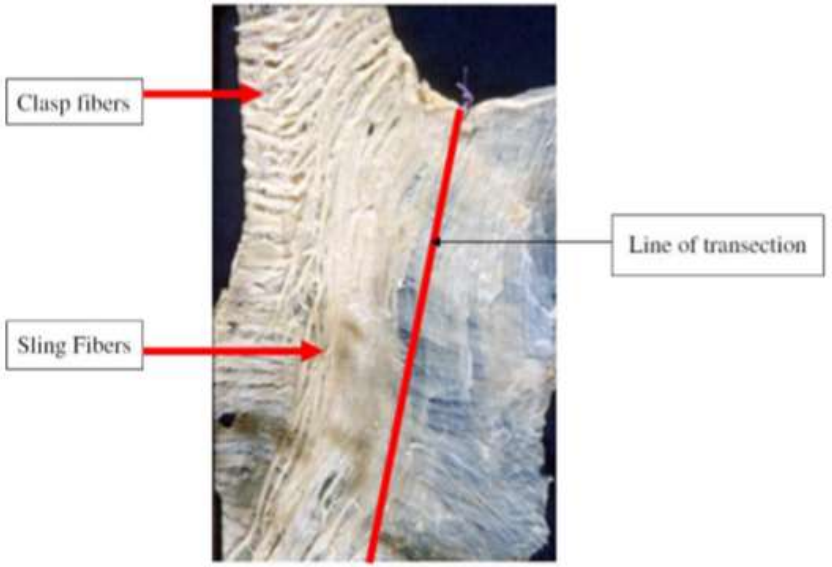
Adverse events grade I-II after SADI and OAGB according to the Clavien-Dindo classification		
	SADI (n = 42)	OAGB (n = 42)
Wound infection/healing disorder	2/42 (4.8%)	2/42 (4.8%)
Lower GI symptoms		
Obstipation	1/42 (2.4%)	6/42 (14.3%)
Flatulence	4/42 (9.5%)	2/42 (4.8%)
Diarrhea	5/42 (11.9%)	5/42 (11.9%)
Steatorrhea	3/42 (7.1%)	2/42 (4.8%)
Upper GI symptoms (pain,nausea,bloatedness)	7/42 (16.7%)	8/42 (19%)
Symptomatic bile reflux	2/42 (4.8%)	11/42 (26.7%)
Anemia	2/42 (4.8%)	5/42 (11.9%)
Anastomotic ulcers	0/42 (0%)	1/42 (2.4%)
Massive malabsorption syndrome*	1/42 (2.4%)	2/42 (4.8%)
Dumping syndrome	1/42 (2.4%)	5/42 (11.9%)
Neurologic symptoms	1/42 (2.4%)	1/42 (2.4%)
Edemas	2/42 (4.8%)	1/42 (2.4%)
Fatigue	1/42 (2.4%)	2/42 (4.8%)
Hair loss	2/42 (4.8%)	3/42 (7.1%)
Readmission	10/42 (23.8%)	18/42 (42.9%)

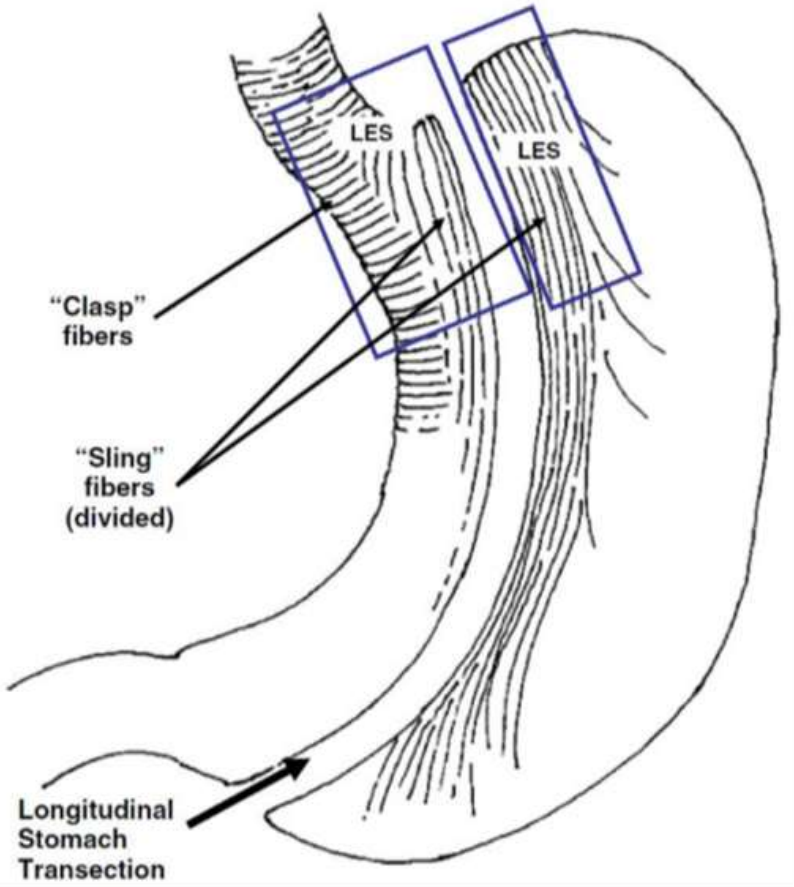
Adverse events grade III-IV after SADI and OAGB according to the Clavien-Dindo classification		
	SADI (n = 42)	OAGB (n = 42)
Abscess	1/42 (2.4%)	2/42 (4.8%)
Staple line leak	1/42 (2.4%)	1/42 (2.4%)
Anastomosis leak	1/42 (2.4%)	0/42 (0%)
Small bowel perforation	1/42 (2.4%)	1/42 (2.4%)
Incisional hernia	2/42 (4.8%)	2/42 (4.8%)
Internal hernia	1/42 (2.2%)*	0/42 (0%)
Cholecystolithiasis	1/42 (2.2%)	4/42 (9.5%)
Death of the patient	1/42 (2.2%)*	0/42 (0%)

We will agree:

- OAGB & SADI
  - Both add a hypo-absorptive component to sleeve and should resurrect weight loss and improve co-morbidities
  - Both Have operative risks and complications

BUT:





Braghetto I et al. Obes Surg 2010; 20: 357-62

Surg Obes Relat Dis. 2017 Apr;13(4):568-574. doi: 10.1016/j.soard.2016.11.029. Epub 2016 Dec 9.

Gastroesophageal reflux disease and Barrett's esophagus after laparoscopic sleeve gastrectomy: a possible, underestimated long-term complication.

Genco A[1], Soricelli E[2], Casella G[1], Maselli R[1], Castagneto-Gissey L[1], Di Lorenzo N[3], Basso N[1].

Author information

Abstract

BACKGROUND: Morbidly obese patients are affected by gastroesophageal reflux disease (GERD) and hiatal hernia (HH) more frequently than lean patients. Because of conflicting results, the indication to sleeve gastrectomy (SG) in patients with GERD is still debated.

OBJECTIVES: To evaluate the incidence of GERD on the basis of clinical, endoscopic, and histologic data in patients undergoing SG.

SETTINGS: University hospital, Rome, Italy.

METHODS: From July 2007 to January 2010, 162 patients underwent primary SG. Preoperatively all patients underwent visual analogue scale (VAS) evaluation of GERD symptoms, proton pump inhibitors (PPIs) consumption recording, and esophagogastroduodenoscopy (EGD). Stomach resection started 6 cm from pylorus on a 48Fr bougie. Staple line was reinforced by an oversewing suture. A postoperative clinical control with VAS evaluation, PPI consumption, and EGD was proposed to all patients. Three patients were excluded because of the occurrence of major postoperative complications.

RESULTS: A total of 110 patients accepted to take part in the study (follow-up rate: 69.1%). At a mean 58 months of follow-up, incidence of GERD symptoms, VAS mean score, and PPI intake significantly increased compared with preoperative values (68.1% versus 33.6%: P<.0001; 3 versus 1.8: P = .018; 57.2% versus 19.1%: P<.0001) At EGD, an upward migration of the "Z" line and a biliary-like esophageal reflux was found in 73.6% and 74.5% of cases, respectively. A significant increase in the incidence and in the severity of erosive esophagitis (EE) was evidenced, whereas nondysplastic Barrett's esophagus (BE) was newly diagnosed in 19 patients (17.2%). No significant correlations were found between GERD symptoms and endoscopic findings.

CONCLUSION: In the present series the incidence of EE and of BE in SG patients was considerably higher than that reported in the current literature, and it was not related to GERD symptoms. Endoscopic surveillance after SG should be advocated irrespecti
GERD symptoms.

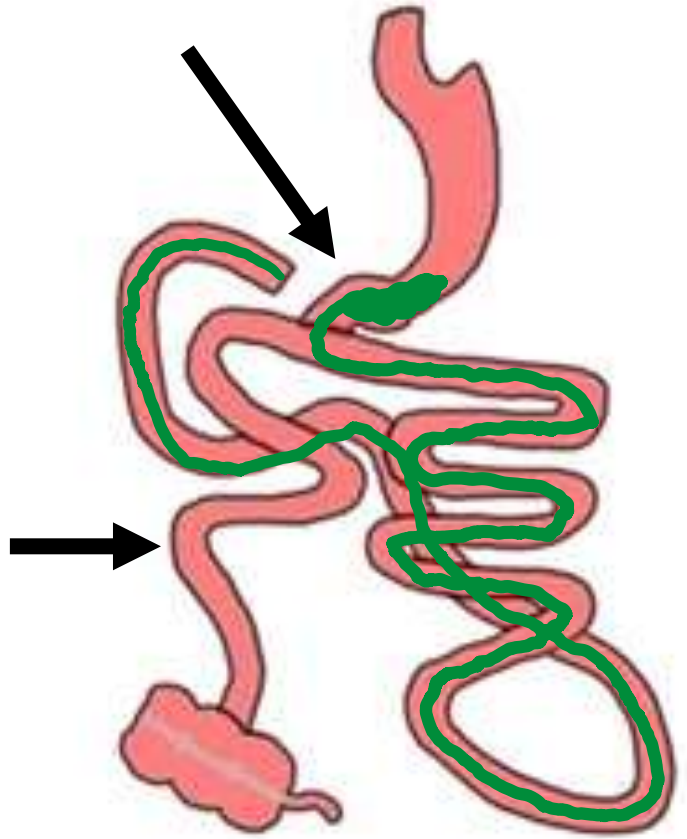
Obesity Surgery
https://doi.org/10.1007/s11695-019-03704-y

ORIGINAL CONTRIBUTIONS

Systematic Endoscopy 5 Years After Sleeve Gastrectomy Results in a High Rate of Barrett's Esophagus: Results of a Multicenter Study

Lionel Sebastianelli[1,2] · Marine Benois[1,2] · Geoffroy Vanbiervliet[1,2] · Laurent Bailly[1,3] · Maud Robert[4] · Nicolas Turrin[5] · Emmanuel Gizard[5] · Mirto Foletto[6] · Marco Bisello[6] · Alice Albanese[6] · Antonella Santonicola[7] · Paola Iovino[7] · Thierry Piche[1,2] · Luigi Angrisani[8] · Laurent Turchi[9] · Luigi Schiavo[10] · Antonio Iannelli[1,2,11]

Patients' characteristics	Before SG	Follow-up	*p*
Patients (*N*)	90	90	–
Sex ratio male/female (%)	24/66 (73)	–	–
Age, SD	41 ± 11	48 ± 11	–
Time of follow-up (months), SD	–	78 ± 15	–
Body weight (kg), SD	127 ± 24	94 ± 22	< 0.0001
BMI (kg/m^2), SD	46 ± 8	34 ± 8	< 0.0001
TBWL %, SD	–	25 ± 12	–
EBWL %, SD	–	58 ± 27	–
Barrett's *N* (%)	0	17 (18.8)	–
GERD *N* (%)	20 (22)	68 (76)	< 0.0001
Patients on PPI *N* (%)	20 (22)	46 (52)	< 0.0001
Esophagitis *N* (%)	9 (10)	37 (41)	< 0.0001



?

Single-Anastomosis
Duodeno-Ileostomy/
Duodenal Switch (SADI-S)

BP Limb length

- **Balance between weight loss, reflux, and malnutrition**
- Standard is 200 cm (1)
- Some evidence that 150 may be better overall (2)
- Formula:
  - Limb 150cm for BMI 35, then >35, 10cm/1BMI (3)
  - Limb 150cm for BMI 40, then >40, 10cm/1BMI (4)

1- Chevallier JM. 1000 single anastomosis gastric bypasses to treat morbid obesity in a 7-year period: Outcomes show few complications and good efficacy. Obes Surg. 2015;25:951–8
2- Noun R. 1000 consecutive mini-gastric bypass: Short- and long-term outcome. Obes Surg. 2012;22:697–703
3- Lee WJ. Laparoscopic Roux-en-Y vs. mini-gastric bypass for the treatment of morbid obesity: A 10-year experience. Obes Surg. 2012;22:1827–34
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4- Noun R. Mini-gastric bypass for revision of failed primary restrictive procedures: A valuable option. Obes Surg. 2007;17:684–8

Efficacy and safety of one anastomosis gastric bypass versus Roux-en-Y gastric bypass for obesity (YOMEGA): a multicentre, randomised, open-label, non-inferiority trial

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Summary

Background One anastomosis gastric bypass (OAGB) is increasingly used in the treatment of morbid obesity. However, the efficacy and safety outcomes of this procedure remain debated. We report the results of a randomised trial (YOMEGA) comparing the outcomes of OAGB versus standard Roux-en-Y gastric bypass (RYGB).

Methods This prospective, multicentre, randomised non-inferiority trial, was held in nine obesity centres in France. Patients were eligible for inclusion if their body-mass index (BMI) was 40 kg/m² or higher, or 35 kg/m² or higher with the presence of at least one comorbidity (type 2 diabetes, high blood pressure, obstructive sleep apnoea, dyslipidaemia, or arthritis), and were aged 18–65 years. Key exclusion criteria were a history of oesophagitis, Barrett's oesophagus, severe gastro-oesophageal reflux disease resistant to proton-pump inhibitors, and previous bariatric surgery. Participants were randomly assigned (1:1) to OAGB or RYGB, stratified by centre with blocks of variable size; the study was open-label, with no masking required. RYGB consisted of a 150 cm alimentary limb and a 50 cm biliary limb and OAGB of a single gastrojejunal anastomosis with a 200 cm biliopancreatic limb. The primary endpoint was percentage excess BMI loss at 2 years. The primary endpoint was assessed in the per-protocol population and safety was assessed in all randomised participants. This study is registered with ClinicalTrials.gov, number NCT02139813, and is now completed.

Findings From May 13, 2014, to March 2, 2016, of 261 patients screened for eligibility, 253 (97%) were randomly assigned to OAGB (n=129) or RYGB (n=124). Five patients did not undergo their assigned surgery, and after undergoing their surgery 14 were excluded from the per-protocol analysis (seven due to pregnancy, two deaths, one withdrawal, and four revisions from OAGB to RYGB) In the per-protocol population (n=117 OAGB, n=117 RYGB), mean age was 43·5 years (SD 10·8), mean BMI was 43·9 kg/m² (SD 5·6), 176 (75%) of 234 participants were female, and 58 (27%) of 211 with available data had type 2 diabetes. After 2 years, mean percentage excess BMI loss was –87·9% (SD 23·6) in the OAGB group and –85·8% (SD 23·1) in the RYGB group, confirming non-inferiority of OAGB (mean difference –3·3%, 95% CI –9·1 to 2·6). 66 serious adverse events associated with surgery were reported (24 in the RYGB group *vs* 42 in the OAGB group; p=0·042), of which nine (21·4%) in the OAGB group were nutritional complications versus none in the RYGB group (p=0·0034).

Interpretation OAGB is not inferior to RYGB regarding weight loss and metabolic improvement at 2 years. Higher incidences of diarrhoea, steatorrhoea, and nutritional adverse events were observed with a 200 cm biliopancreatic limb OAGB, suggesting a malabsorptive effect.

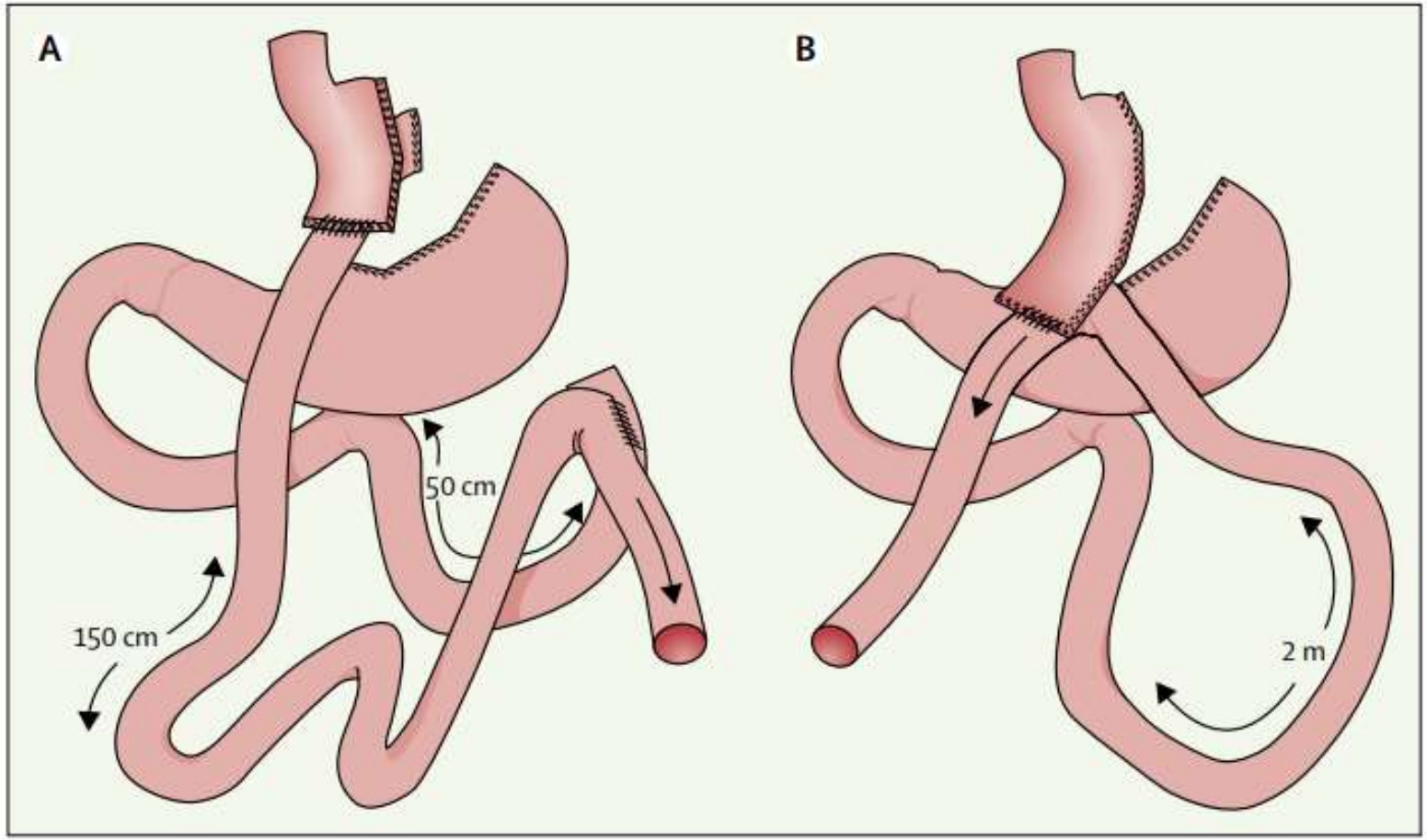
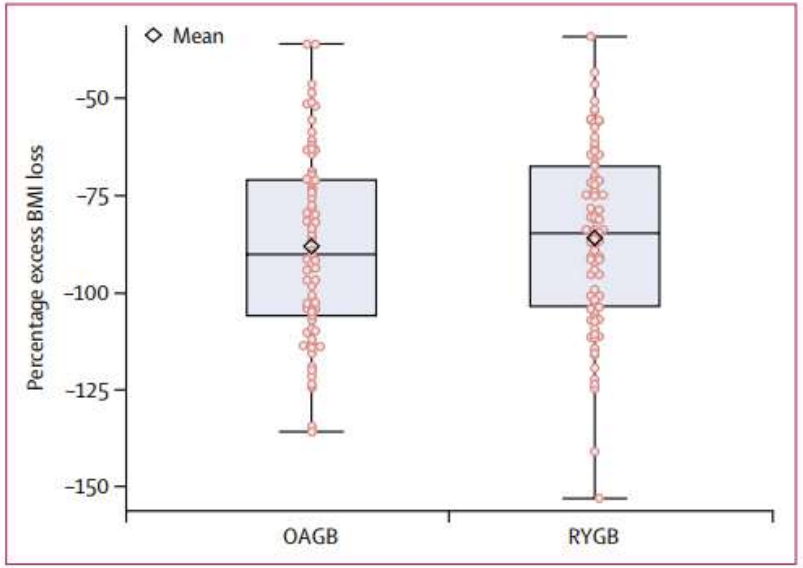


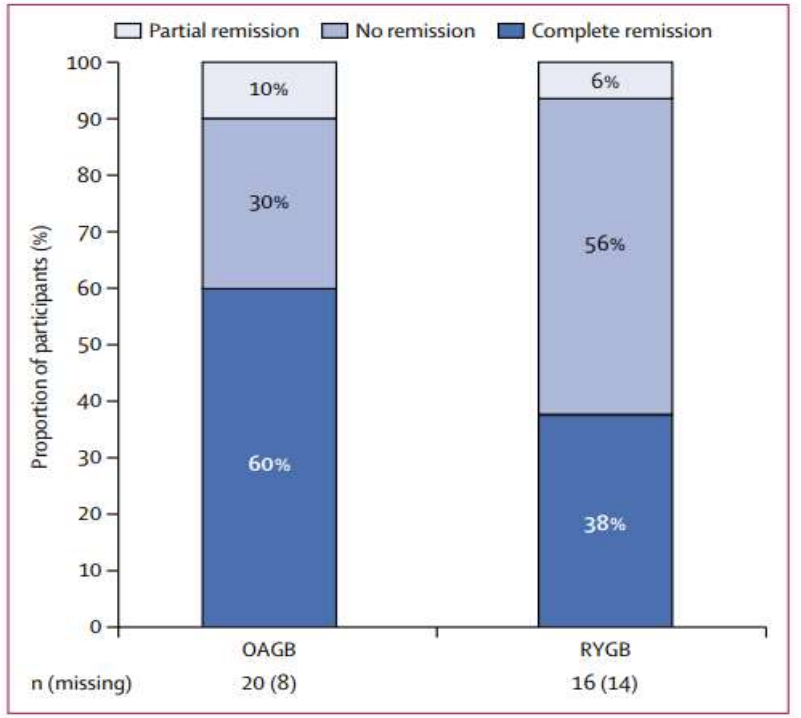
Figure 1: Roux-en-Y gastric bypass (A) and one anastomosis gastric bypass (B) surgical procedures

	Per-protocol population (n=234)	RYGB (n=117)	OAGB (n=117)	p value
Participants with type 2 diabetes (n=58)				
HbA_{1c},% (mmol/mol)	5·8% (0·9; 40 [9·4])	6·1% (0·9; 43 [10·3])	5·6% (0·8; 38 [8·2])	0·055
n (missing data)	39 (19)	17 (13)	22 (6)	..
Decrease in HbA_{1c} from baseline, %	−1·9 (1·5)	−1·3 (1·0)	−2·3 (1·6)	0·025
n (missing data)	38 (20)	17 (13)	21 (7)	..
Fasting glycaemia, mmol/L	5·8 (2·2)	6·1 (2·9)	5·6 (1·5)	0·801
n (missing data)	42 (16)	20 (10)	22 (6)	..
Decrease in fasting glycaemia from baseline, mmol/L	−3·6 (4·3)	−2·6 (4·8)	−3·8 (3·8)	0·505
n (missing data)	42 (16)	20 (10)	22 (6)	..
Per-protocol population (n=234)				
Decrease in LDL-C from baseline, mmol/L	−0·4 (1·0)	−0·4 (1·0)	−0·4 (1·1)	0·97
n (missing data)	102 (132)	49 (68)	53 (64)	..
Increase in HDL-C from baseline, mmol/L	0·3 (0·3)	0·3 (0·3)	0·3 (0·3)	1
n (missing data)	105 (129)	50 (67)	55 (62)	..
Decrease in total cholesterol from baseline, mmol/L	−0·3 (1·0))	−0·3 (1·0)	−0·4 (1·1)	0·82
n (missing data)	105 (129	49 (68)	56 (61)	..
Decrease in triglycerides from baseline, mmol/L	−0·6 (1·2)	−0·6 (0·62)	−0·7 (1·5)	0·31
n (missing data)	107 (127)	49 (68)	58 (59)	..

Data are mean (SD) or n (missing data). RYGB=Roux-en-Y gastric bypass. OAGB=one anastomosis gastric bypass. HbA_{1c}=glycated haemoglobin.

***Table 2*: Metabolic outcomes at 2 years of follow-up for the per-protocol population**





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	RYGB group (n=63)	OAGB group (n=58)
Gastritis	4 (6%)	11 (19%)
Presence of bile in the stomach	0	9 (16%)
Oesophagitis	2 (3%)	6 (10%)
Grade A	1	4
Grade B	1	1
Grade C	0	1
Gastric biopsy	63	57
Normal mucosa	51 (81%)	44 (77%)
Gastritis	11	12
Metaplasia	0	1
Oesophageal biopsy	59	56
Normal mucosa	51 (86%)	43 (77%)
Oesophagitis	8	12
Metaplasia	0	1

Data are n (missing data), n (%), or n. RYGB=Roux-en-Y gastric bypass. OAGB=one anastomosis gastric bypass.

Table 4: **Endoscopic findings at 2 years of follow-up**

	Total (n=66)	RYGB group (n=24)	OAGB group (n=42)
Nutritional complications	9 (14%)	..	9 (21%)
Anastomotic ulcer	5 (8%)	3 (13%)	2 (5%)
Reflux	3 (5%)	..	3 (7%)
Bowel obstruction	4 (6%)	3 (13%)	1 (2%)
Abdominal pain	5 (8%)	5 (21%)	..
Diarrhoea or anal fissures	6 (9%)	..	6 (14%)
Vesicular lithiasis	13 (20%)	5 (21%)	8 (19%)
Urinary lithiasis	3 (5%)	..	3 (7%)
Early peritonitis	4 (6%)	1 (4%)	3 (7%)
Abdominal wall haematoma or abscess	3 (5%)	3 (13%)	..
Vomiting	2 (3%)	2 (8%)	..
Incisional hernia	1 (2%)	..	1 (2%)
Haemoperitoneum	1 (2%)	1 (4%)	..
Kidney failure by dehydration	1 (2%)	..	1 (2%)
Gastrogastric fistula	1 (2%)	1 (4%)	..
Anticoagulant overdose	1 (2%)	..	1 (2%)
Revision from OAGB to RYGB	4 (6%)	..	4 (10%)

Data are n (%). p value for difference in frequency nutritional complications between the RYGB group and OAGB group is 0·0034. RYGB=Roux-en-Y gastric bypass. OAGB=one anastomosis gastric bypass.

Table 5: **Serious adverse events associated with surgery at 2 years of follow-up**

At 2 years of follow-up, almost twice as many overall serious adverse events and serious adverse events associated with surgery occurred in the OAGB group compared with the RYGB group (overall 67 *vs* 38, p=0·009; associated with surgery 42 *vs* 24, p=0·042). Data for overall serious advserse events are in the appendix. Among the serious adverse events associated with surgery, nine (21%) were nutritional complications in the OAGB group versus none in the RYGB group (p=0·0034; table 5). Among

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Diarrhoea or anal fissures	6 (9%)	..	6 (14%)
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Incisional hernia	1 (2%)	..	1 (2%)
Haemoperitoneum	1 (2%)	1 (4%)	..
Kidney failure by dehydration	1 (2%)	..	1 (2%)
Gastrogastric fistula	1 (2%)	1 (4%)	..
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	Type of nutritional complication	Mean weight loss (kg)	Vitamin deficiency	Malnutrition	Anaemia or iron deficiency	Steatorrhoea >7 g per 24 h
Participant 1	Wernicke encephalopathy	64; converted to RYGB	Yes	Yes	No	25
Participant 2	Malnutrition	52	Yes	No	No	9·74
Participant 3	Malnutrition	Data missing; converted to RYGB	Yes	No	No	Data missing
Participant 4	Severe diarrhoea or malnutrition	39	Yes	Yes	No	Data missing
Participant 5	Malnutrition or anorexia	40	Yes	Yes	Yes	14
Participant 6	Feeding difficulties	53	Yes	Yes	Yes	Data missing
Participant 7	Anorexia	126	Yes	Yes	Yes	Data missing
Participant 8	Food intolerance	38	Yes	Yes	Yes	10
Participant 9	Anaemia	55	Yes	Yes	Yes	Data missing

OAGB=one anastomosis gastric bypass. RYGBP=Roux-en-Y gastric bypass.

Table 6: **Nutritional complications among nine participants in the OAGB group**

Conclusion:

- All current ASMBS endorsed surgeries are effective
- Safety MUST remain top priority as we choose our “operation of choice”
- IT IS NOT ABOUT BMI AND DIABETES BUT PATIENT’S WELLNESS

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