MBS as a bridge to heart transplantation: Results, Limitations, Risks, Perspectives

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Disclosures

Medtronic
Engineering the extraordinary

Educational Grant
Speaker Fees

ETHICON
Shaping the future of surgery

Educational Grant

OLYMPUS

Educational Grant
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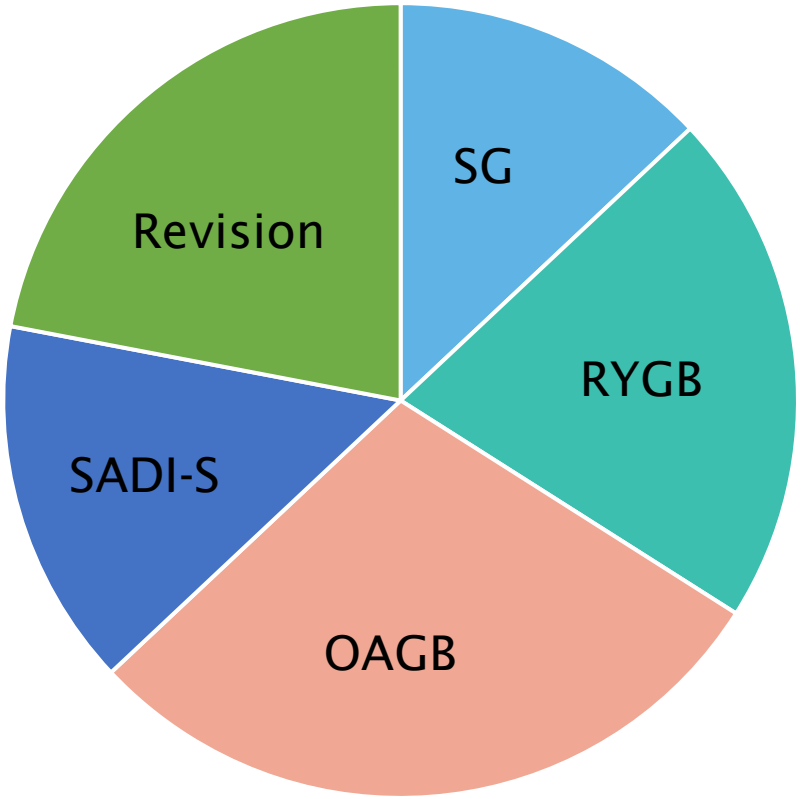
Case Mix



LAGB	0%
SG	13%
RYGB	21%
OAGB	29%
SADI-S	15%
Revision	22%

Bariatric Surgery Provides a "Bridge to Transplant" for Morbidly Obese Patients with Advanced Heart Failure and May Obviate the Need for Transplantation

Choon-Pin Lim[1,2] · Oliver M. Fisher[3] · Dan Falkenback[3,4] · Damien Boyd[5] · Christopher S. Hayward[1] · Anne Keogh[1] · Katherine Samaras[6,7] · Peter MacDonald[1] · Reginald V. Lord[3,8]

Morbid obesity = relative contraindication to heart transplantation

The International Society of Heart and Lung Transplantation has recommended that severely obese patients achieve a **BMI <30 kg/m2 before listing for cardiac transplantation**

OBES SURG (2016) 26:486–493

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7 patients with **LVEF<25%** → postoperative median **LVEF 30%**
BMI 42,8 → 29,9 (after 1a)

2 patients underwent HTX
2 patients listed for HTX
3 patients improved and don‘t needed HTX

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Bariatric surgery ... successful weight reduction ... enabling successful heart transplantation.

In some patients, cardiac transplantation can be avoided through surgical weight loss.

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Weight loss → Cardiac function ↑↑

Limitation: Acute cardiac decompensation due to hemodynamic stresses associated with anesthesia and pneumoperitoneum

Heart failure associated with **7x increase** in the risk of **perioperative mortality** during bariatric surgery
(Ann Surg. 2014; 259(1):123–30)

OBES SURG (2016) 26:486–493

2023 SAGES ORAL

Sleeve gastrectomy facilitates weight loss and permits cardiac transplantation in patients with severe obesity and a left ventricular assist device (LVAD)

Catherine Tsai[1] · Patrick Dolan[1] · Noah Moss[2] · Alejandro F. Sandoval[2] · Julie Roldan[2] · Daniel M. Herron[1]

LVAD as a bridge to HTX for adanced heart failure
n=12, Sleeve Gastrectomy

4p underwent HTX, 2 listed for HTX

- BMI 42.5kg/m^2 → 32.8kg/m^2

- 8/12 reached target BMI < 35kg/m^2

Surgical Endoscopy 2023
https://doi.org/10.1007/s00464-023-10264-x

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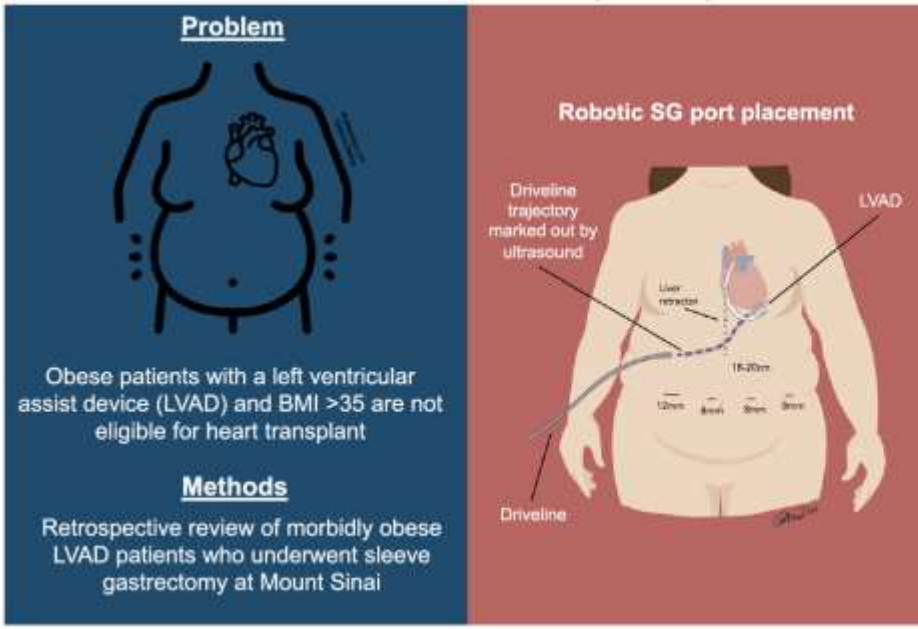
1 revision (bleeding)

1 hematochezia (conservative)

1 readmission



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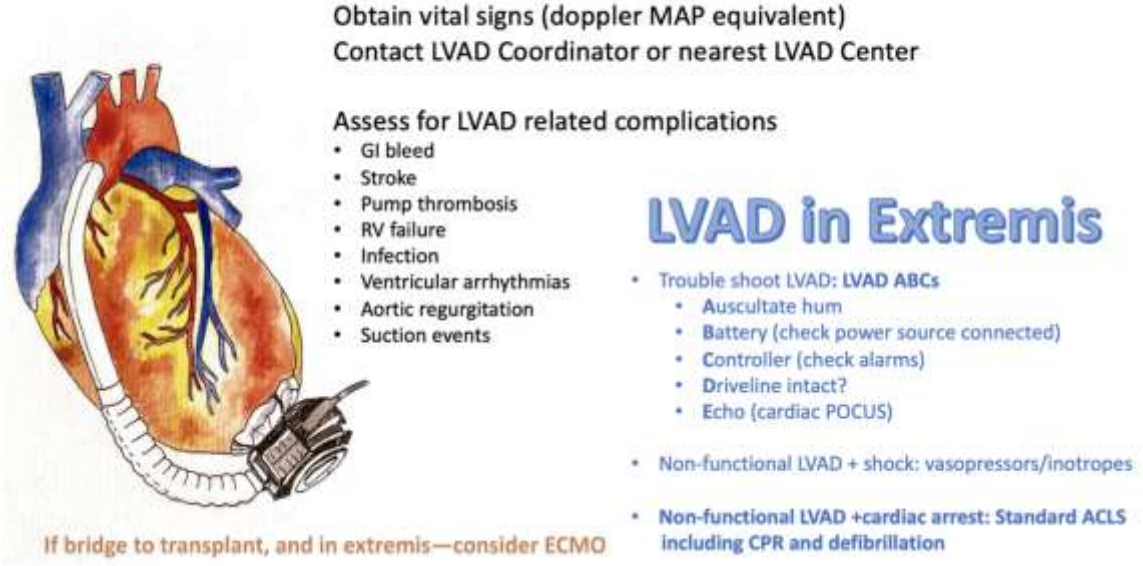
LVAD = bridge to HTX

Patients gain weight after LVAD!

LVAD complications



Surgical Endoscopy 2023
https://doi.org/10.1007/s00464-023-10264-x

Obesity, transplantation, and bariatric surgery: An evolving solution for a growing epidemic

Tayyab S. Diwan[1] | Tiffany C. Lee[1] | Shunji Nagai[2] | Enrico Benedetti[3] | Andrew Posselt[4] | Ginny Bumgardner[5] | Sabrena Noria[5] | Bryan A. Whitson[5] | Lloyd Ratner[6] | David Mason[7] | Jon Friedman[8] | Kenneth J. Woodside[9] | Julie Heimbach[10]

- **Obesity:** Significant **challenges in access to transplant**
- **negative impacts on outcomes** after solid organ transplant.

Addressing obesity in select patients with **bariatric surgery** before transplant may **improve access, facilitate an easier operation**, as well as improve benefits of transplant.

Bariatric surgery after transplant may also help to enhance the benefits from transplant under certain situations.

Am J Transplant. 2020;20:2143–2155

BRIEF COMMUNICATION

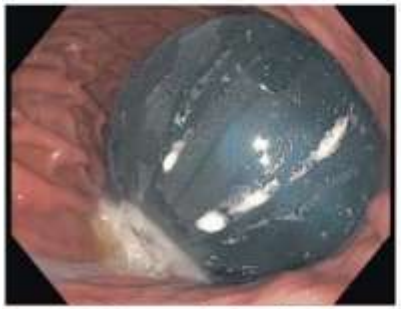
Successful Use of Intragastric Balloon Therapy as a Bridge to Heart Transplantation

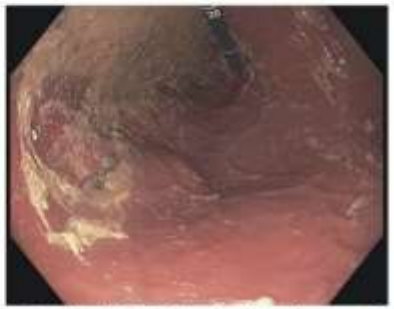
Neej J. Patel[1] · Victoria Gómez[2] · D. Eric Steidley[3] · Lori Roust[4] · Juan Carlos Leoni Moreno[5] · Neena S. Abraham[1] · Rahul Pannala[1]

2 patients,

class II obesity and end-stage CHF requiring left ventricular assist devices (LVAD)

→ Sucessful HTX


IGB Placement in Gastric Body


Gastric Body & Fundus Post Removal

Obesity Surgery (2020) 30:3610–3614

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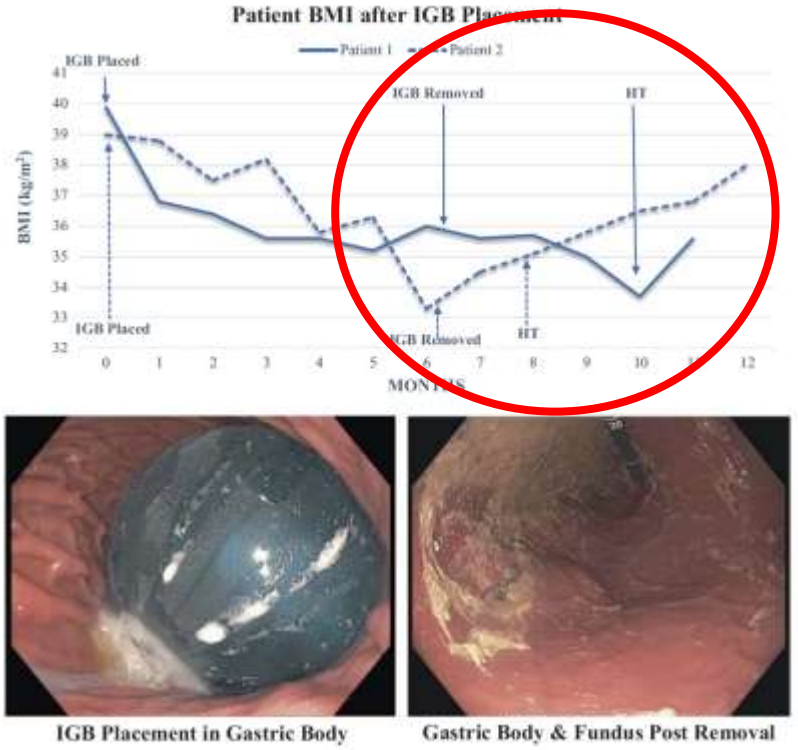

Obesity Surgery (2020) 30:3610–3614

ORIGINAL CONTRIBUTIONS

Bariatric Surgery Outcomes in Patients with Prior Solid Organ Transplantation: an MBSAQIP Analysis

Alexander M. Fagenson[1] · Michael M. Mazzei[1] · Huaqing Zhao[2] · Xiaoning Lu[2] · Michael A. Edwards[3]

336 transplant patients were compared with 157,413 patients without transplant

Longer operative time
Increased length of stay
More leaks

Prior Tx: →Higher Morbidity, same mortality

Obesity Surgery (2020) 30:2313–2324

Bariatric Surgery as a Bridge to Heart Transplantation in Morbidly Obese Patients

A Systematic Review and Meta-Analysis

Yung Lee, MD, Sama Anvari, MD,† Melissa Sam Soon, BHSc,* Chenchen Tian, BHSc,* Jorge A. Wong, MD, MPH,‡ Dennis Hong, MD, MSc,* Mehran Anvari, MBBS, PhD,* and Aristithes G. Doumouras, MD, MPH**

11 studies with 98 patients
BMI preop 44.9 kg/m^2 → 33.2 kg/m^2

Time MBS →HTX: 14 months

71% of patients listed for transplantation
57% of listed patients underwent HTX

Mortality of MBS 0%, morbidity 28%

Cardiology in Review 2022;30: 1–7

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MBS is **effective** and **safe** in patients with ESHF, and may be used to achieve sufficient weight loss to facilitate cardiac transplant eligibility and transplantation

Cardiology in Review 2022;30: 1–7

MBS and Heart transplantation I:
Results-Limitations-Risks-Perpectives

- MBS enables/broadens access to HTX
- MBS in patients with low LVEF/LVAD should be done only in centers with high experience AND a cardiac surgical dept.
- Highest perioperative risk: bleeding (fully anticoagulated under LVAD)
- **MBS improves organ function AFTER transplantation**

MBS and Heart transplantation II:
Results-Limitations-Risks-Perpectives

- Perspective I: closer collaboration between bariatric and cardiac surgeons

- Perspective II: Weight loss **before** Tx by MBS (SG, IGB, ESG?) or **AOM**

- MBS **AFTER** successful HTX in case of (recurrent) weight gain

- Fighting Obesity in the context of solid organ TX

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European Chapter

See you in Vienna

SAVE THE DATE

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IFSO XXVII WORLD CONGRESS 2024

MELBOURNE, AUSTRALIA

International Federation for the Surgery of Obesity and Metabolic Disorders

Don't Miss It!

Save the date: 3-7 September 2024

Melbourne Convention and Exhibition Centre (MCEC)

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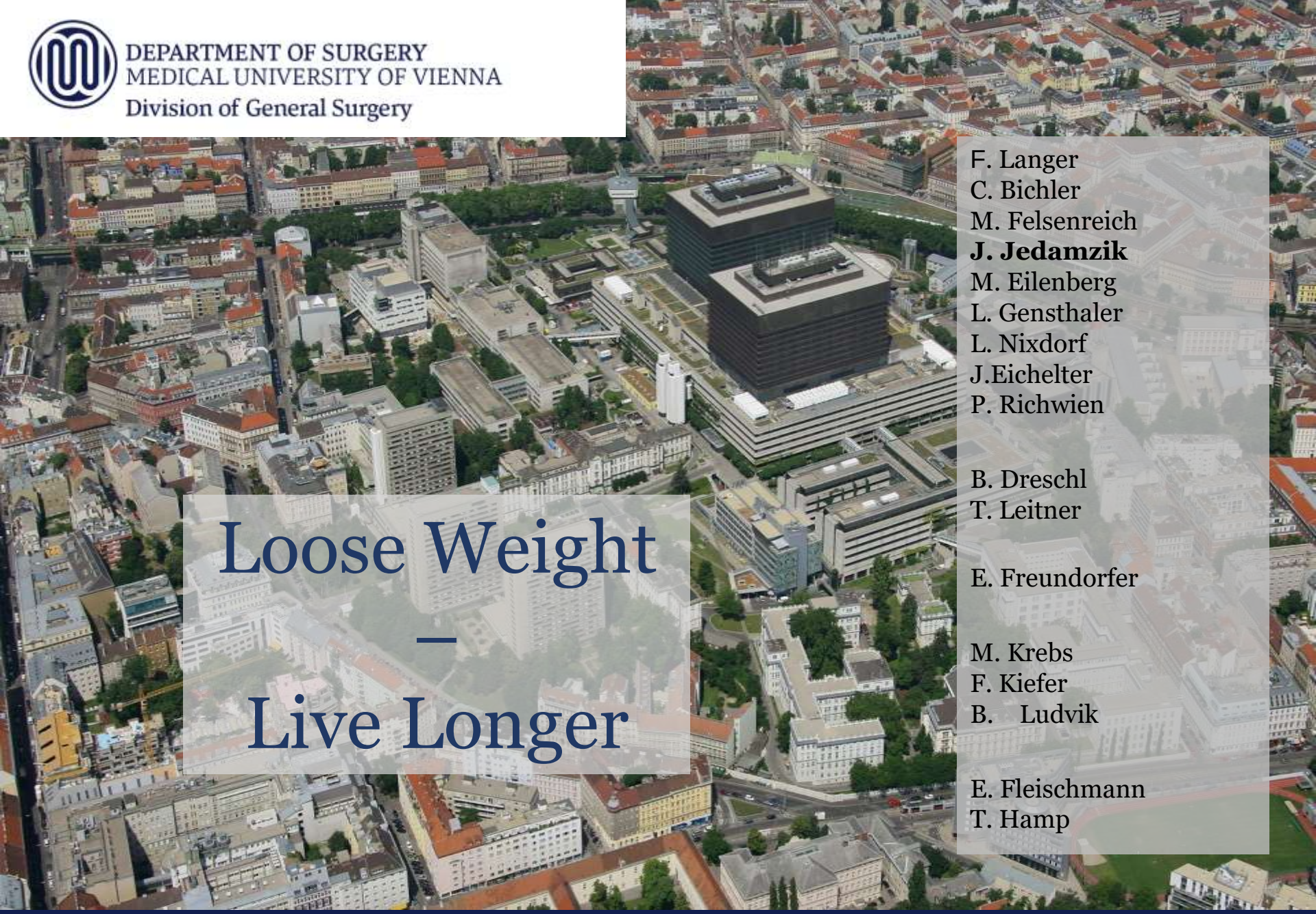
MEDICAL UNIVERSITY OF VIENNA
Division of General Surgery



Loose Weight
–
Live Longer

F. Langer
C. Bichler
M. Felsenreich
J. Jedamzik
M. Eilenberg
L. Gensthaler
L. Nixdorf
J.Eichelter
P. Richwien

B. Dreschl
T. Leitner

E. Freundorfer

M. Krebs
F. Kiefer
B. Ludvik

E. Fleischmann
T. Hamp

Sleeve gastrectomy - Leaks

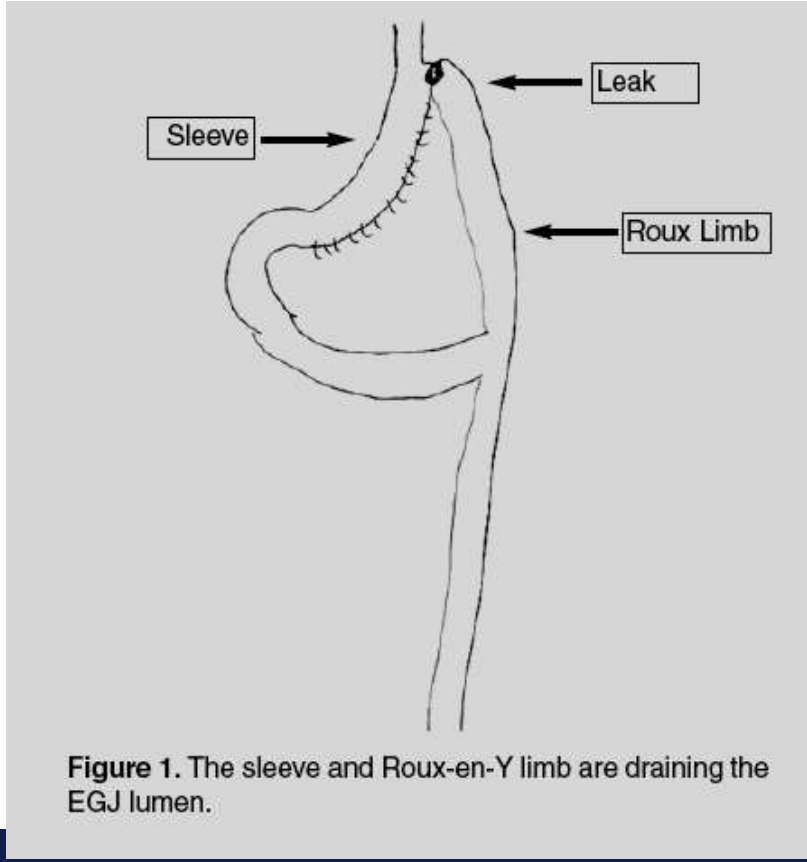


Figure 1. The sleeve and Roux-en-Y limb are draining the EGJ lumen.

Baltasar, Obes Surg 2007