



**“Latero-Lateral Duodeno-Ileostomy + Sleeve Gastrectomy with  
MAGNET SYSTEM:  
the 180 day results of Spanish Experience”**

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Professor of Surgery

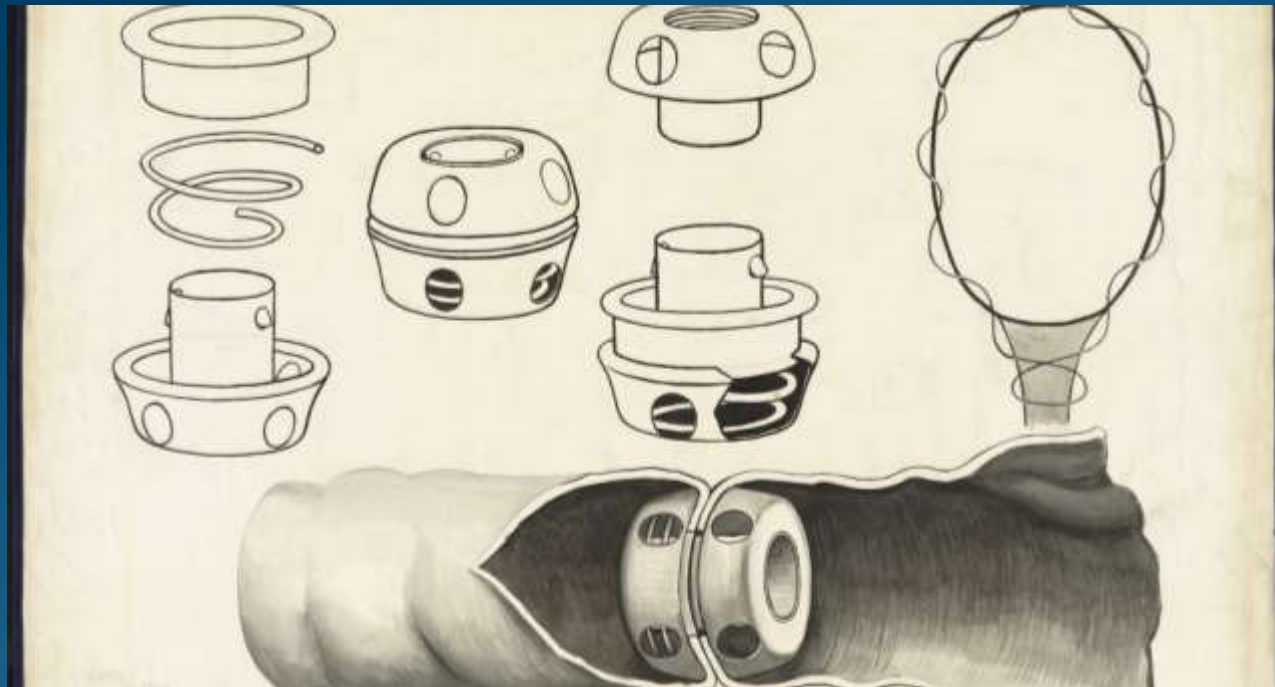
Hospital Clínico San Carlos. Universidad Complutense de Madrid

**President IFSO 2011-2012**

**Chairman IFSO’s Board of Trustees 2015-2019**

# Compression Anastomosis

## Murphy Button, 1892

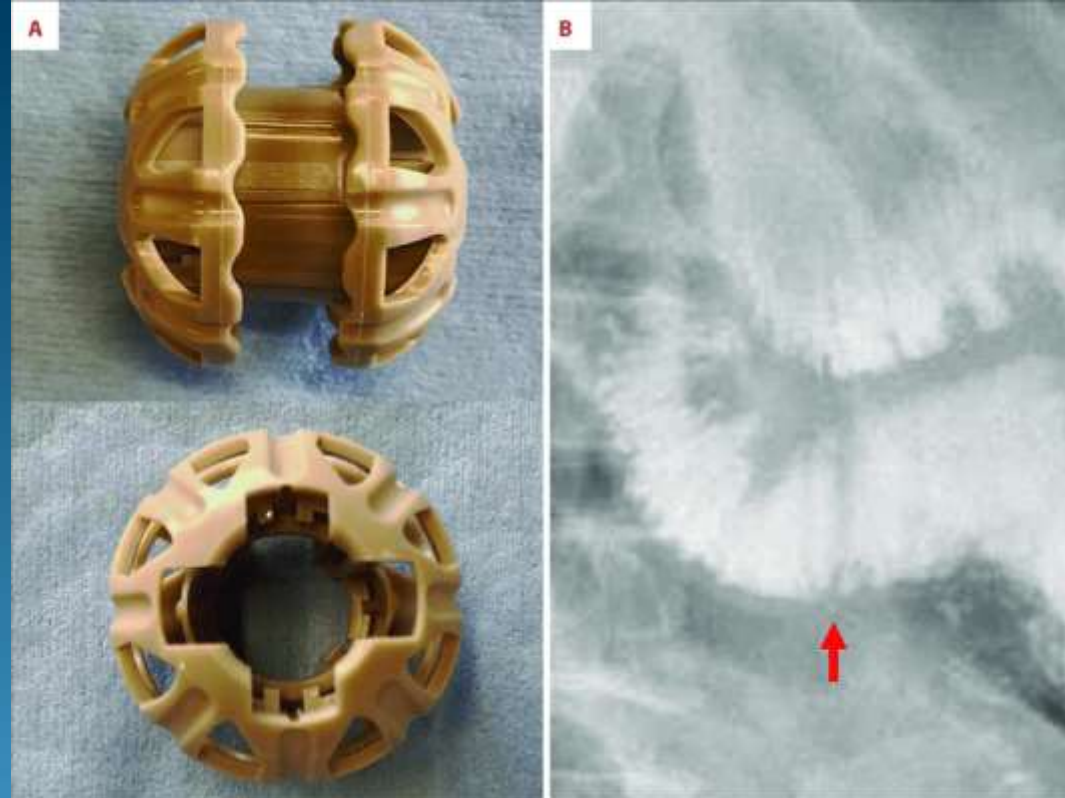
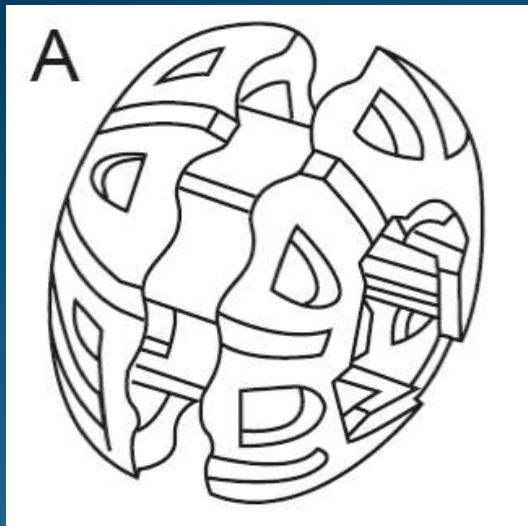


### Murphy Button

The Murphy button, introduced by Dr. Murphy in 1892, was a major breakthrough in intestinal surgery. It allowed operations to be performed quickly and efficiently, reducing the risk of patient shock. The cap of each mushroom-shaped half was stitched to an intestinal opening and the stems were joined. As the sections of intestine healed together, the area directly attached to the metal button decayed, releasing it to be passed.

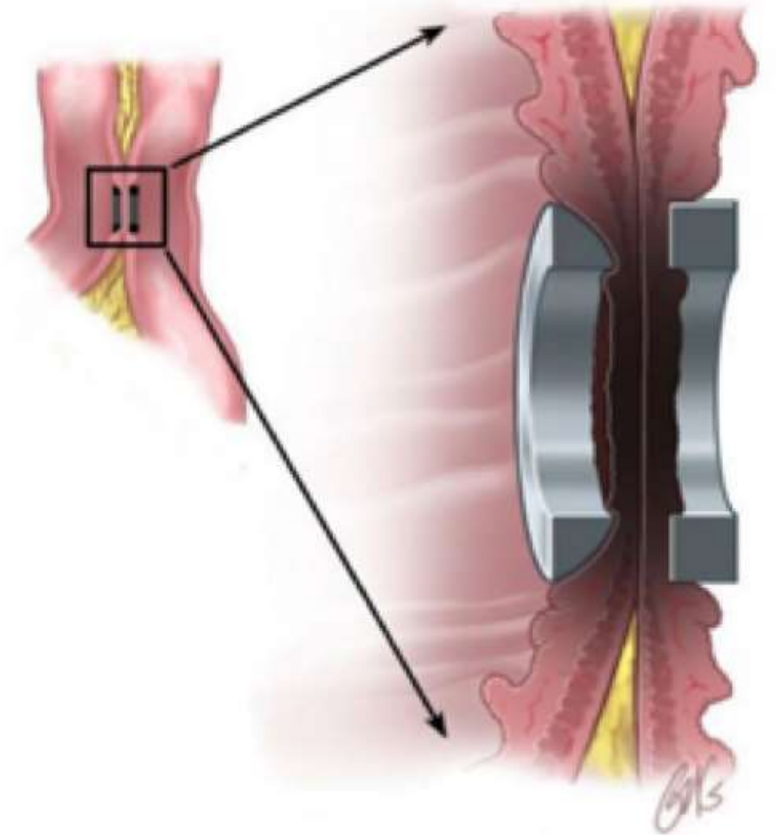


# Valtrac , 1984



# Introduction: **MAGNETS**

- traction
- magnetic sphincters
- endoscopic retrieval of foreign |
- compression anastomosis
  - Magnamosis, IAS



Kaidar-Person O, Rosenthal RJ, Wexner SD, Szomstein S, Person B. Compression anastomosis: history and clinical considerations. *Am J Surg.* 2008 Jun; 195 (6) 818-26.

Diaz, R., Davalos, G., Welsh, L.K. et al. Use of magnets in gastrointestinal surgery. *Surg Endosc.* 2019, 33:1721–1730.

# Duodenal-Bipartition: advantages

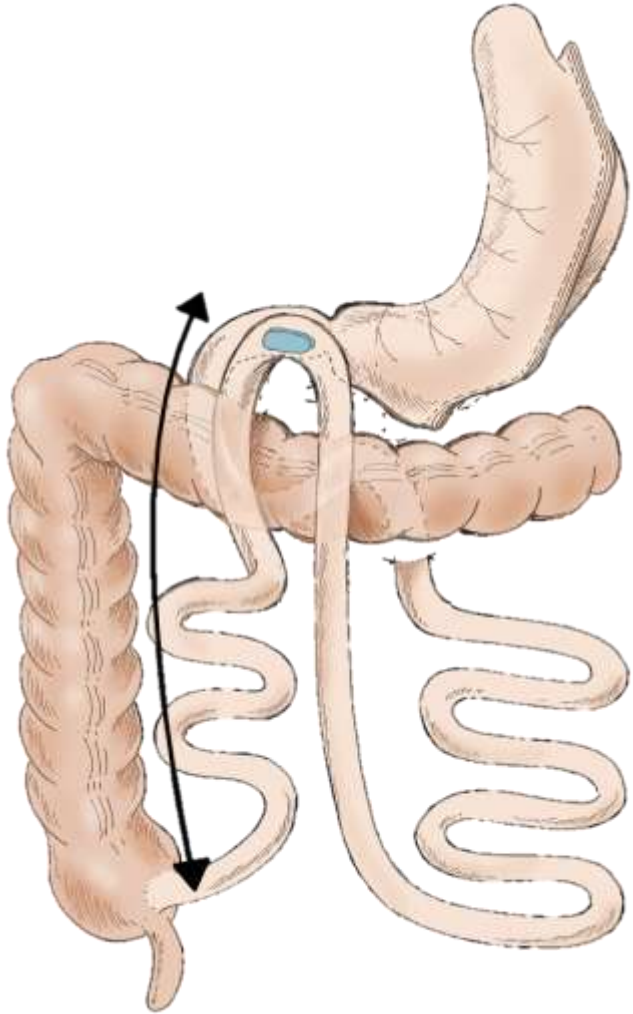
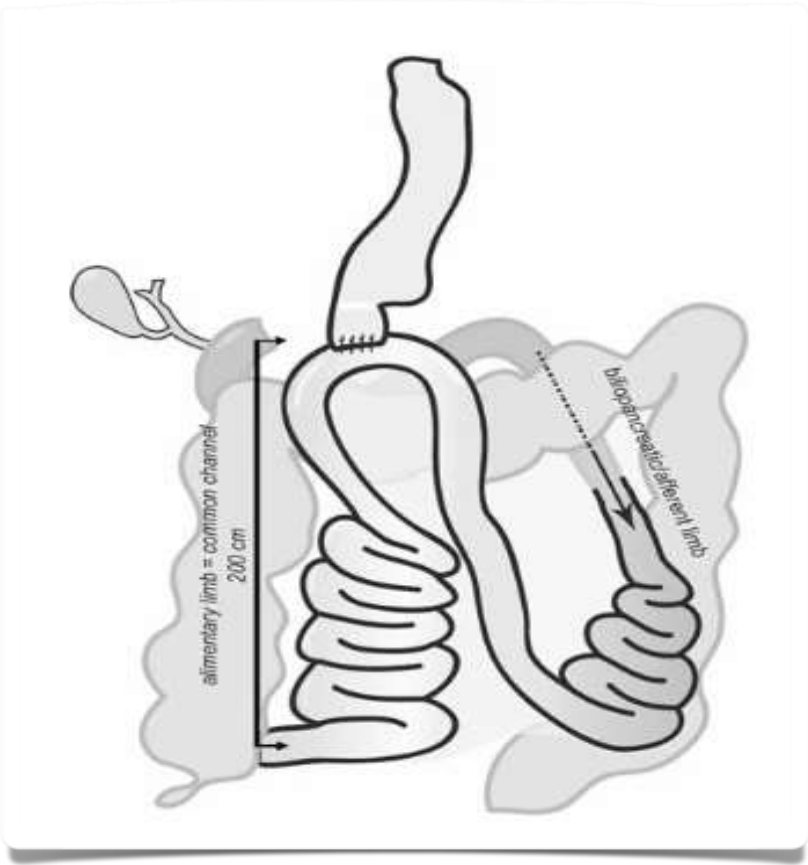
- Early stimulation of GLP-1 and PYY 3-36
- Partial derivation of calories, and decreased absorption of fat
- Main duodenal absorption of minerals and B,C complex vitamins
- Access to main duodenum (like ERCP)
- Decrease bile reflux (post-pyloric connection)



SADIS



Duodenal-Bipartition



# Methodology

- **Multicentric study**
  - Stage 1 - first in human and proof of concept (5 patients)
  - Stage 2 - feasibility (30 patients)
- 5 centers in Canada and Europe
- Ethics committee approval and AEMPS approval
- Independent Data Safety Monitoring Board

# Inclusion criteria

adults 18 to 65 years of age with obesity BMI 30 - 50

T2DM or experienced weight regain following previous sleeve gastrectomy (>12 months)

or

T2DM without previous sleeve gastrectomy

or

candidates for laparoscopic SADI-S and have BMI > 40

and

- agree to refrain from any type of additional bariatric or reconstructive surgery (1 year)
- if a childbearing female, commit to not becoming pregnant (1 year)
- willing and able to comply with protocol requirements



# Objectives

- to evaluate **feasibility, safety and initial efficacy** of the MAGNET System to create side-to-side anastomosis duodeno-ileostomy and its effect on achieving and maintaining weight loss in obese patients and improving glycemic control in those with T2DM

- **Feasibility** defined by:
  - successful placement >90%
  - passage of magnets without serious adverse events
  - creation of patent anastomosis

- **Safety**: freedom from serious adverse events
- **Efficacy**: weight reduction, improvements of metabolic indicators, QoL improvement

# Aim

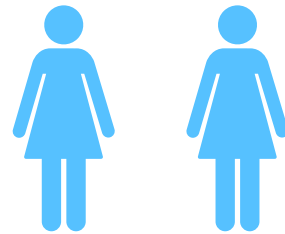
- presentation of early experience with 180 days results of MAGNET Study in Hospital Clínico San Carlos, Madrid, Spain
- Initial evaluation of feasibility, safety and efficacy in 10 patients

# Results

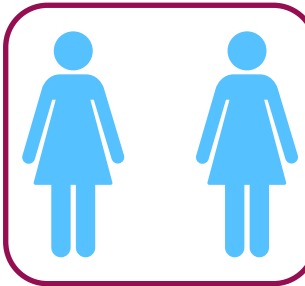
25-04-2022



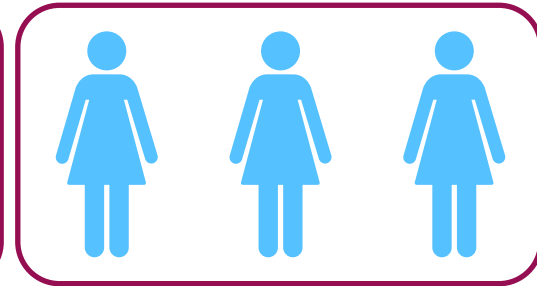
26-04-2022



16-06-2022



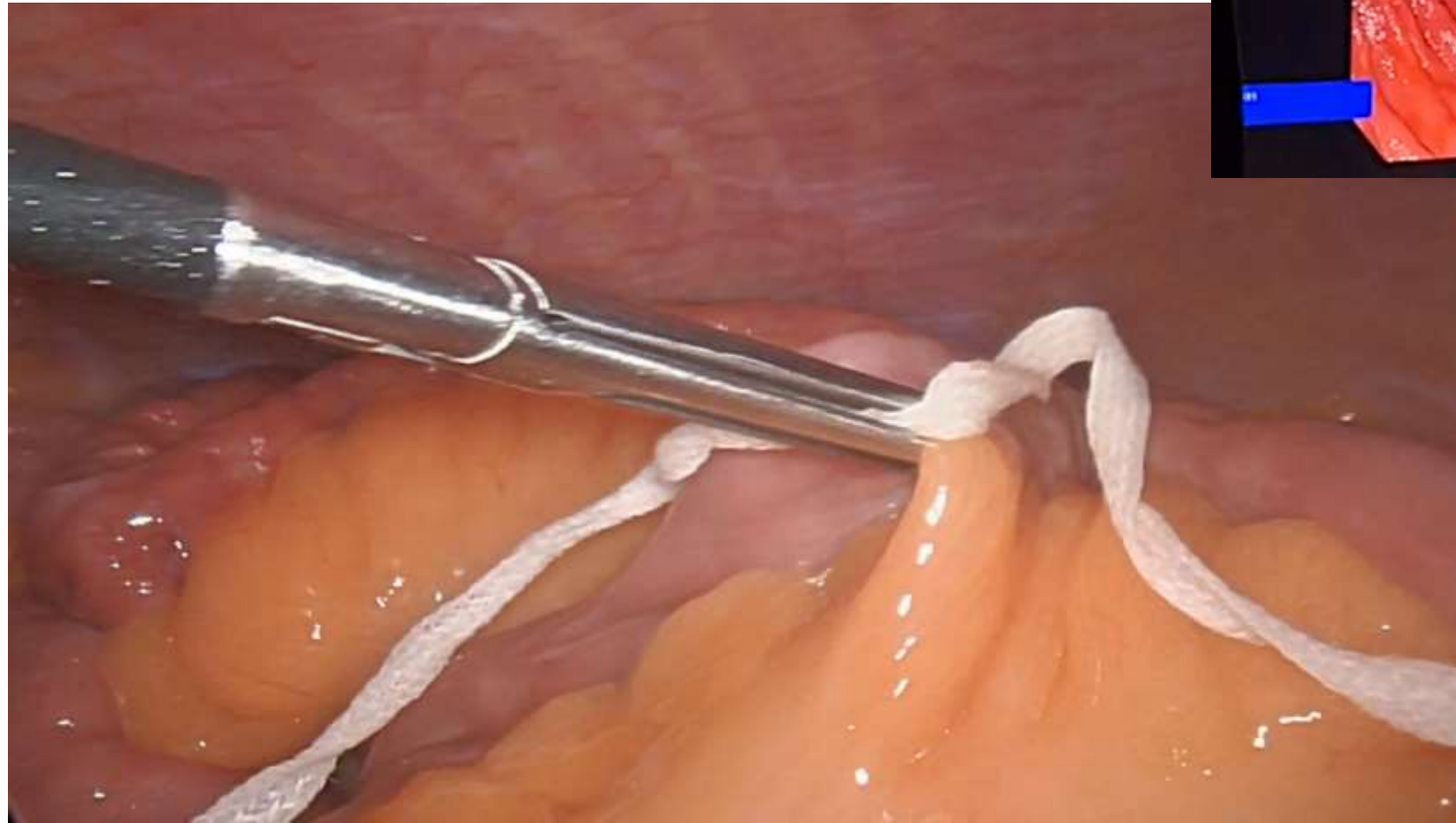
18-07-2022



age:  $48 \pm 8,75$  years

BMI:  $44,08 \pm 3,29$  kg/m<sup>2</sup>

# Surgical technique



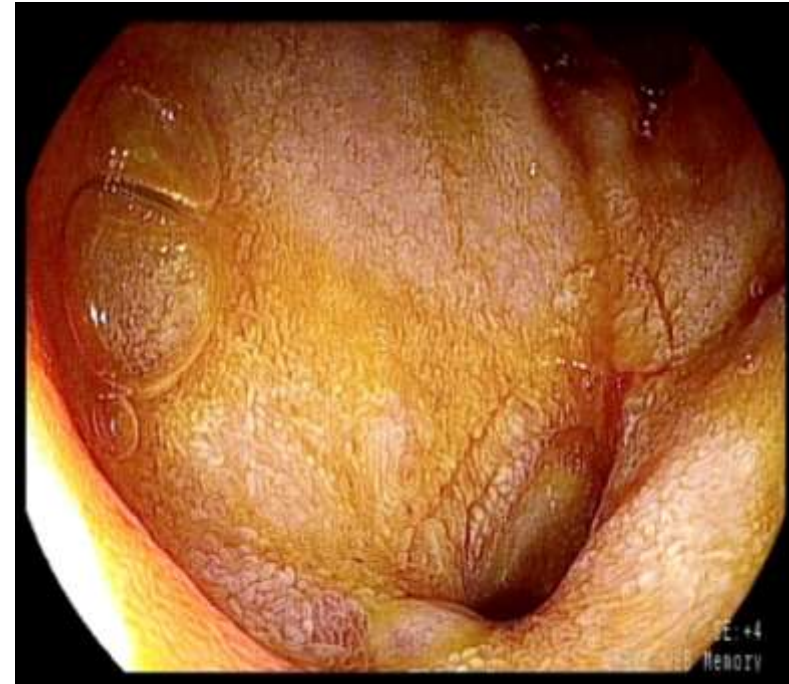
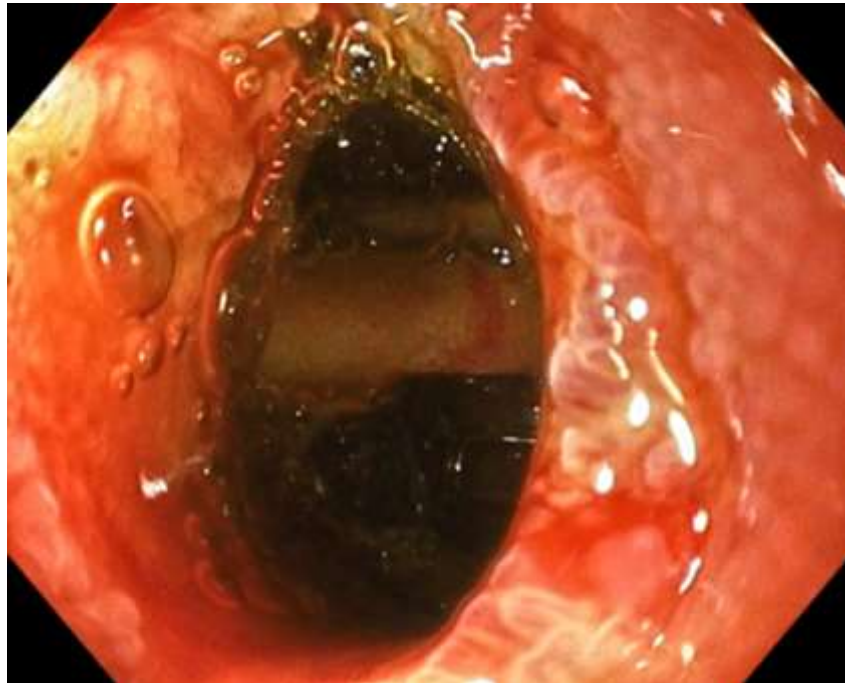
- First pass of contrast on fluoroscopy - 17 (15-66) days



- Magnet expulsion: 42 (20-134) days

- Gastroscopy after magnet expulsion

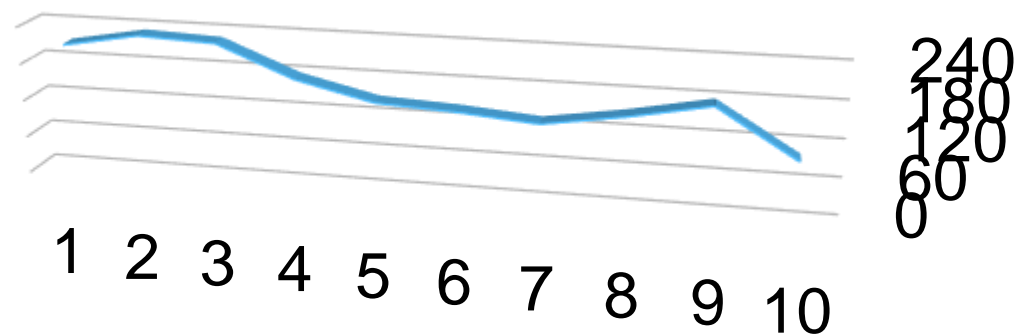
anastomosis diameter:  
13,4x11mm



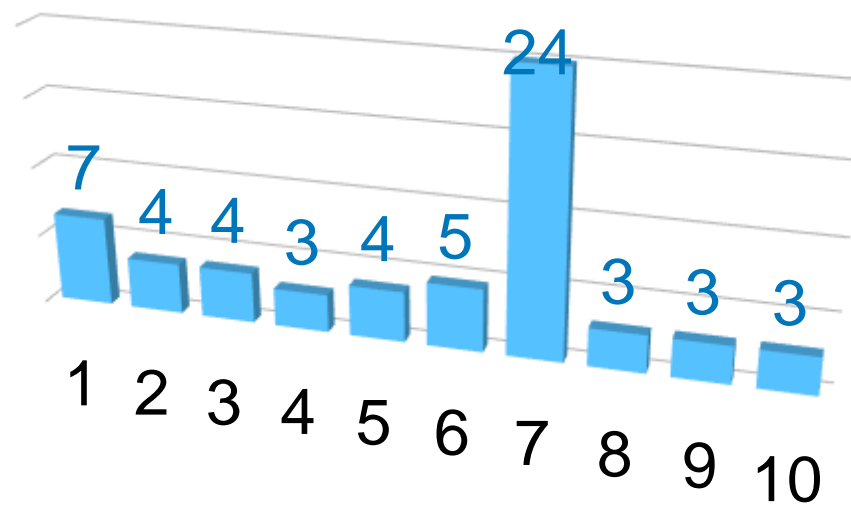
- 180D Gastroscopy

anastomosis diameter:  
12,7x11mm

- Length of surgery: 168 (99-230) min



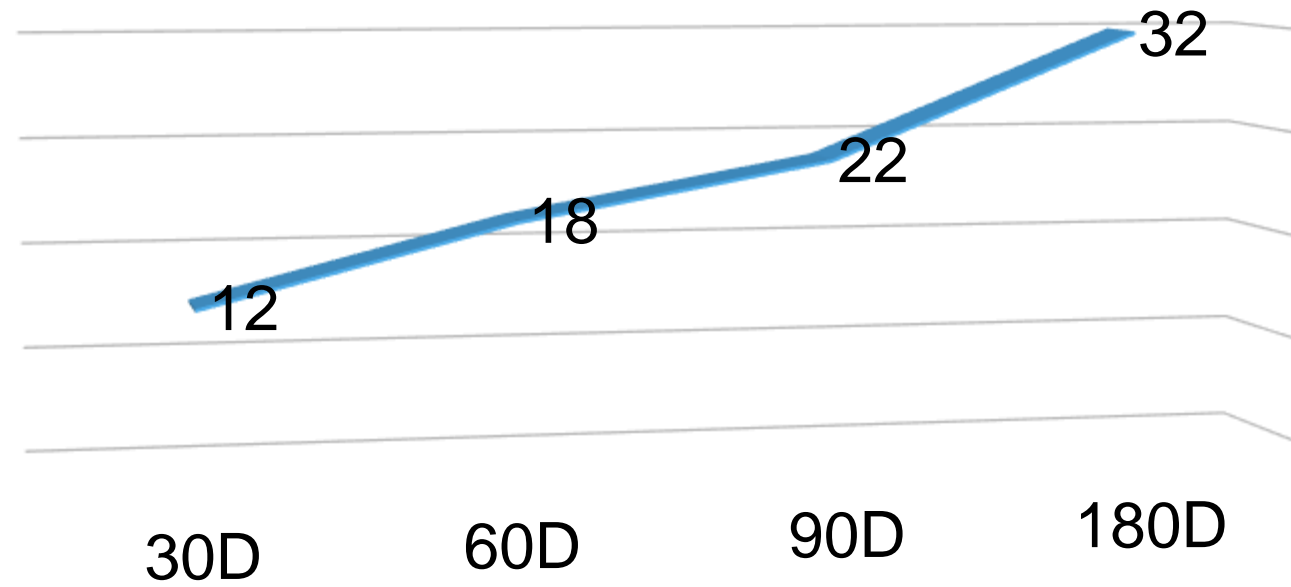
- Length of hospital stay: 4 (3-24) days





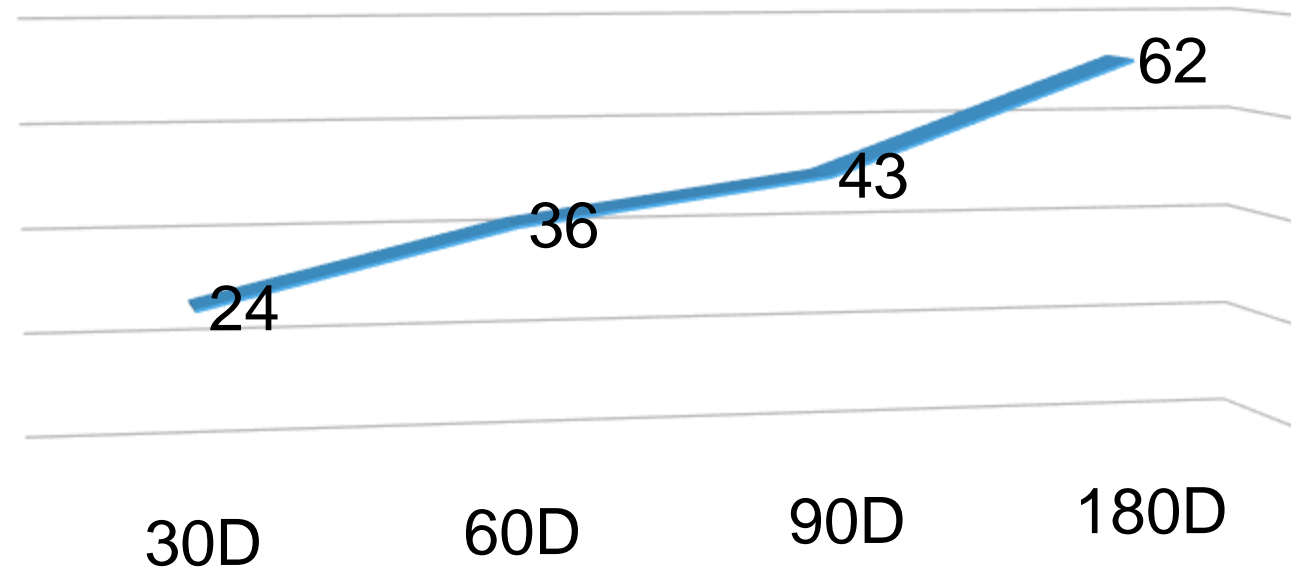
# Results

TWL%



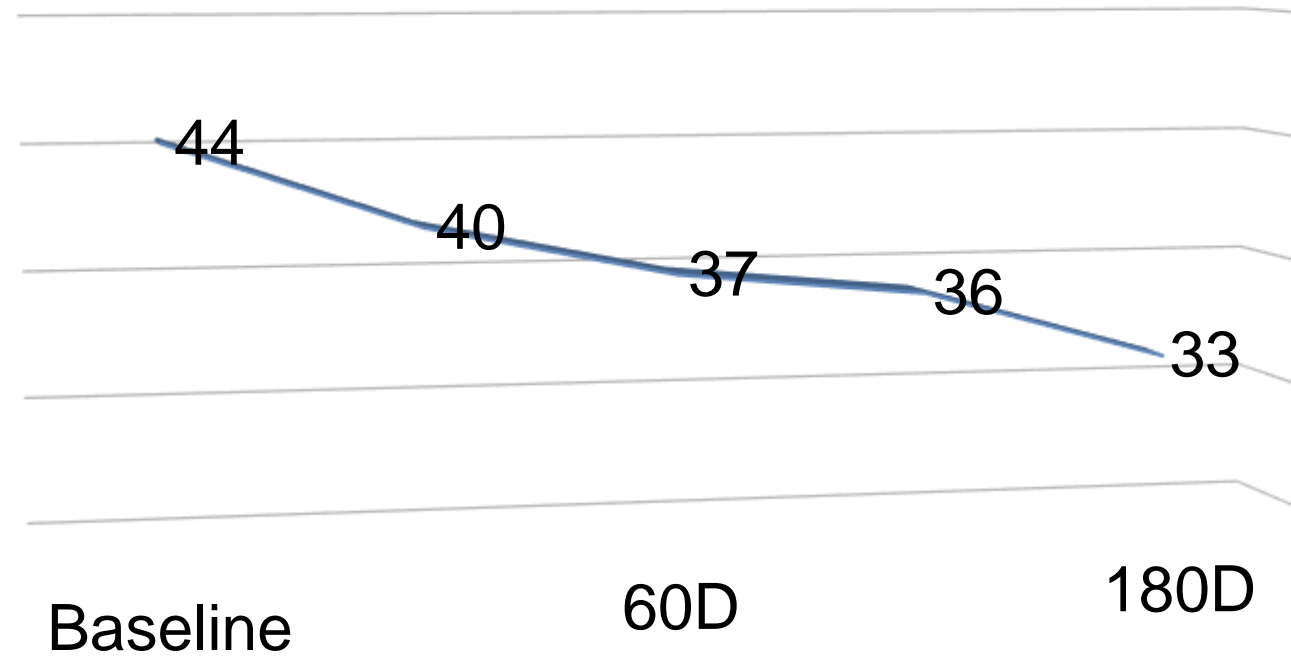
# Results

EWL%



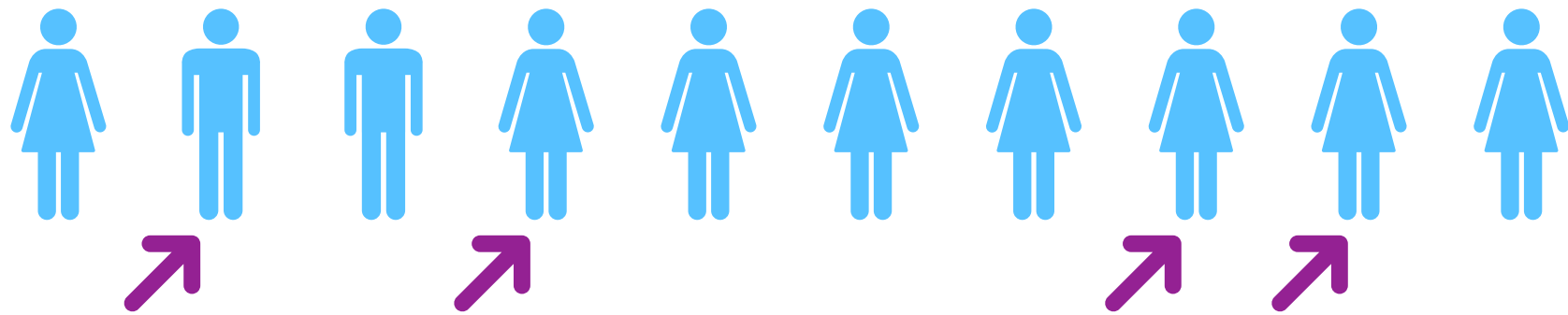
# Results

BMI (kg/m<sup>2</sup>)



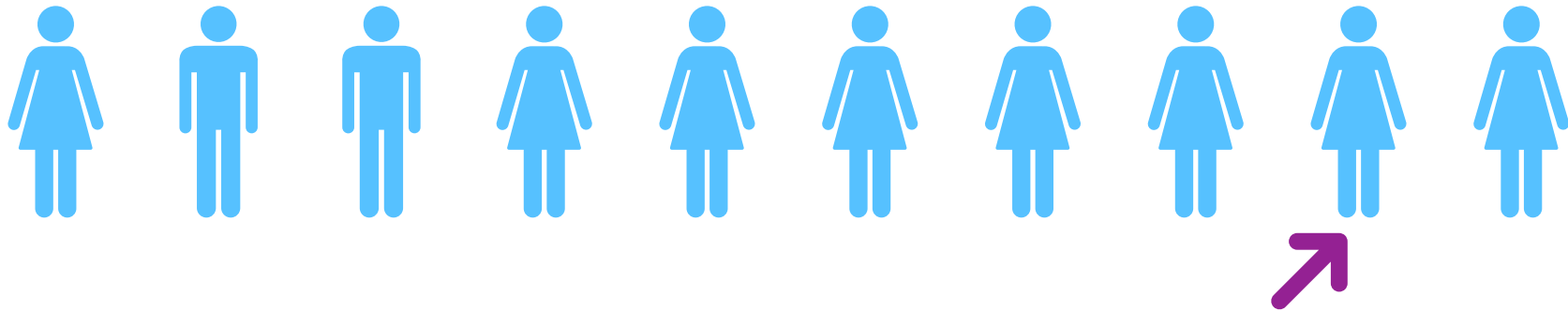
# Results

## Type 2 Diabetes Mellitus



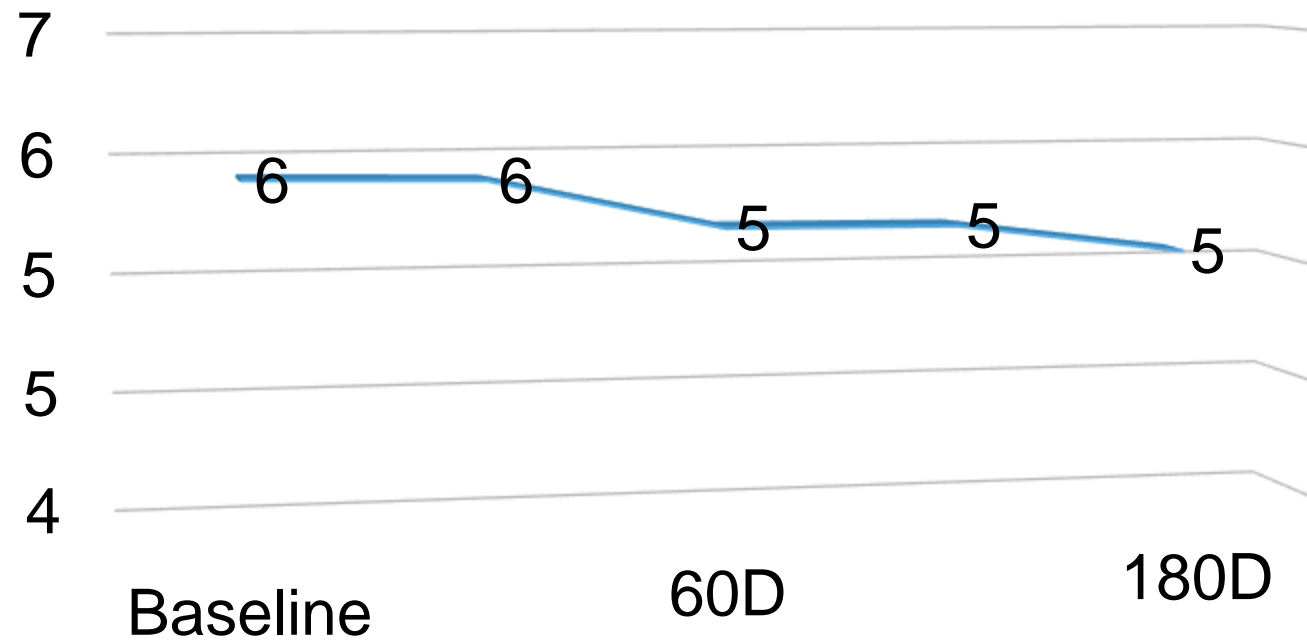
# Results

## Type 2 Diabetes Mellitus



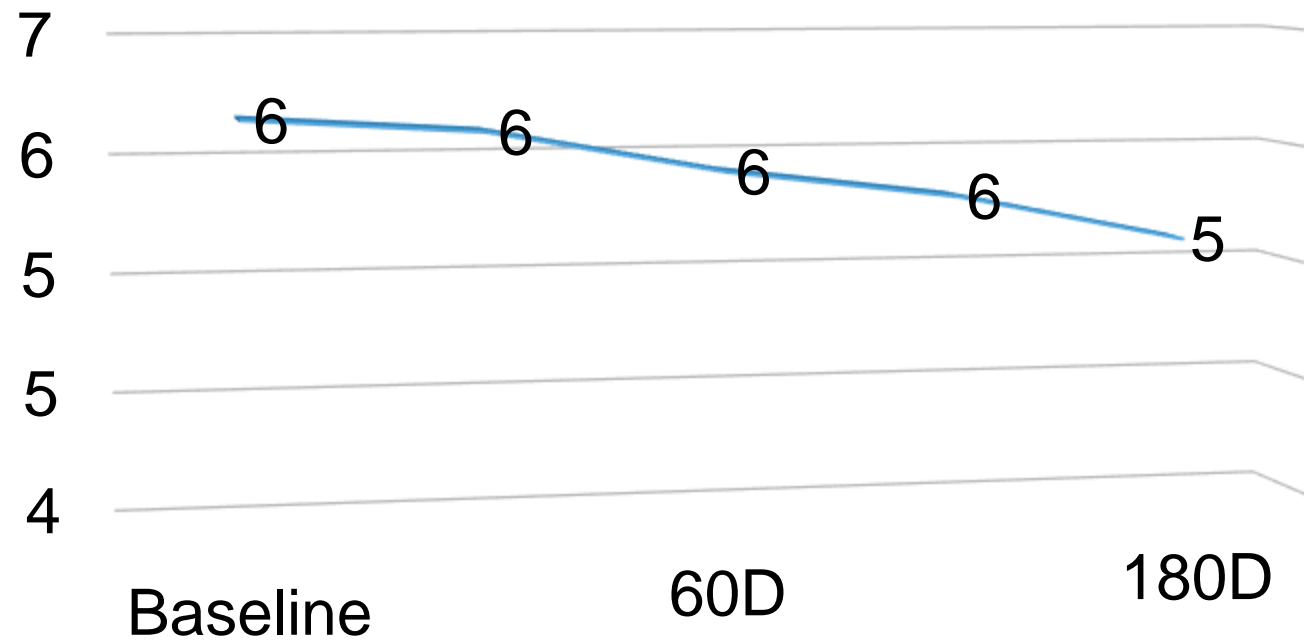
# Results

## HbA1%



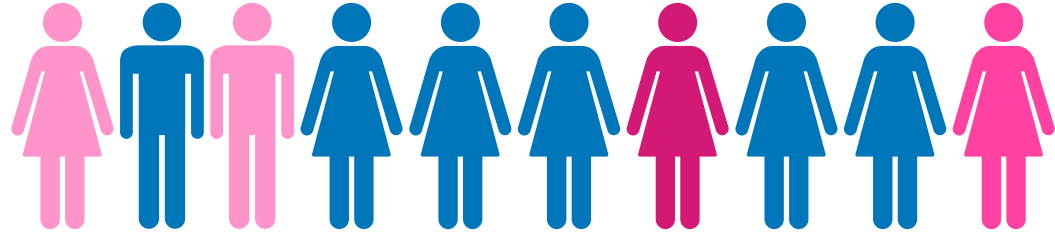
# Results

## HbA1% T2DM patients





- Complications:



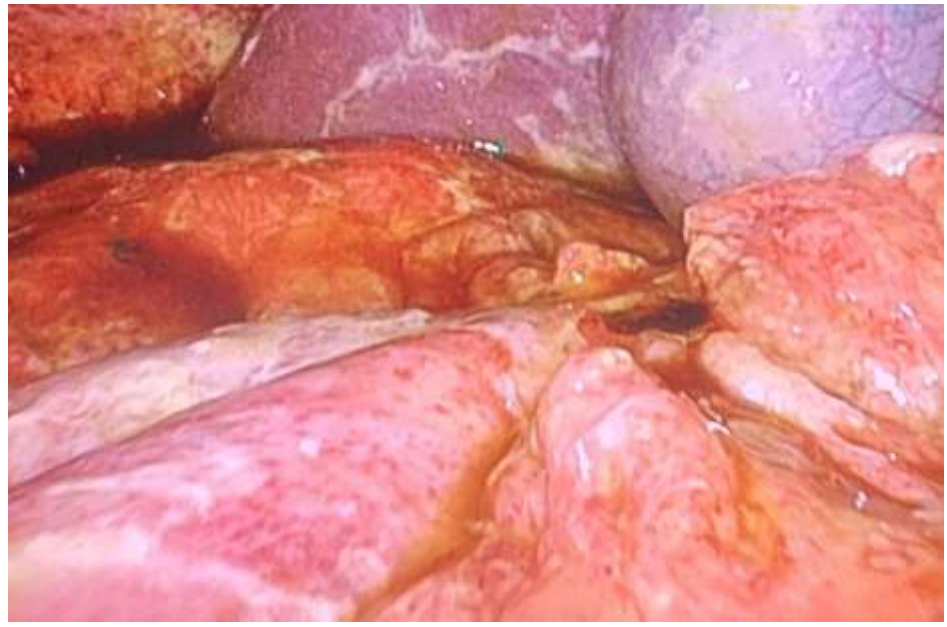
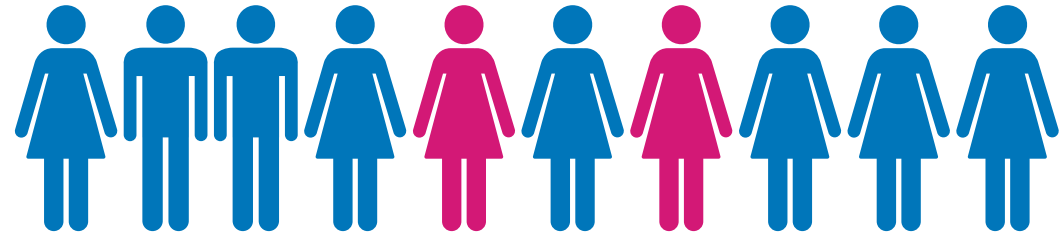
Urinary infection (Clavien-Dindo I)

Atelectasia (Clavien-Dindo I)

**Pelvic collection with drainage(C-D IIIb)**

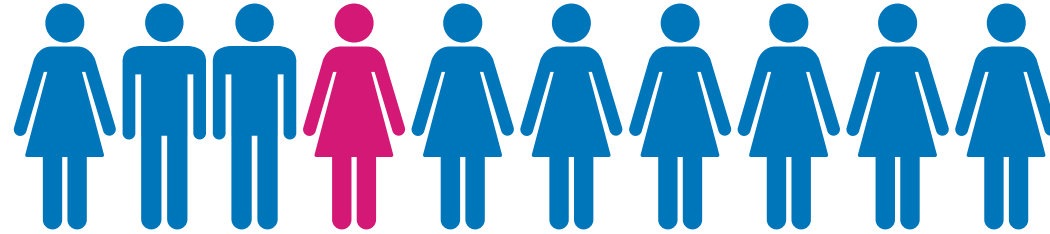
Intraoperative serosal tear

- Complications during follow-up:



perforation after dilation of stenotic anastomosis 180D

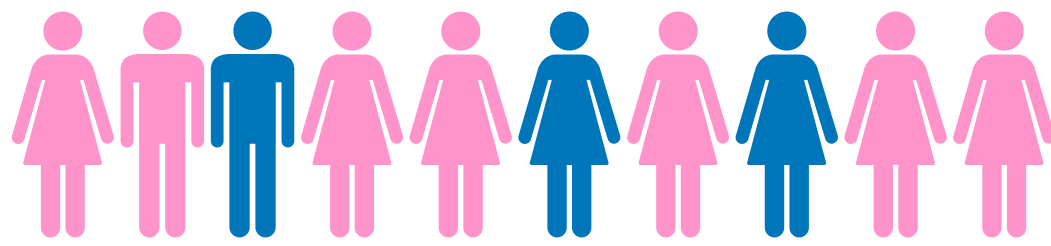
- Adverse events



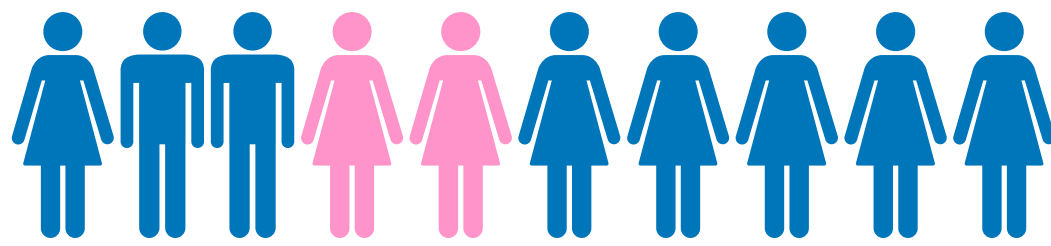
- Biliary colic with 2 visits in ER at 60D after surgery
- Choledocholithiasis
- **ERCP**
- Laparoscopic cholecystectomy

- Adverse events

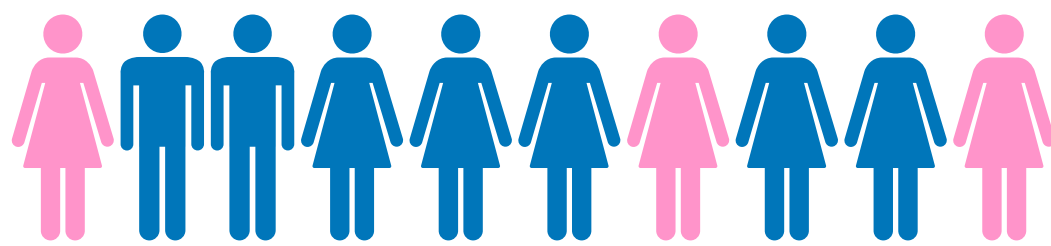
- Reflux (Preop)



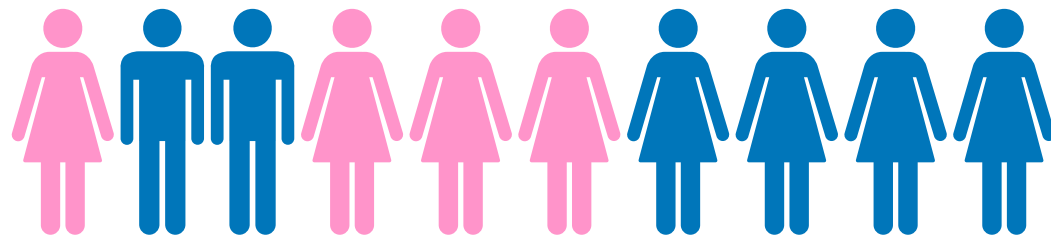
- Reflux 180D



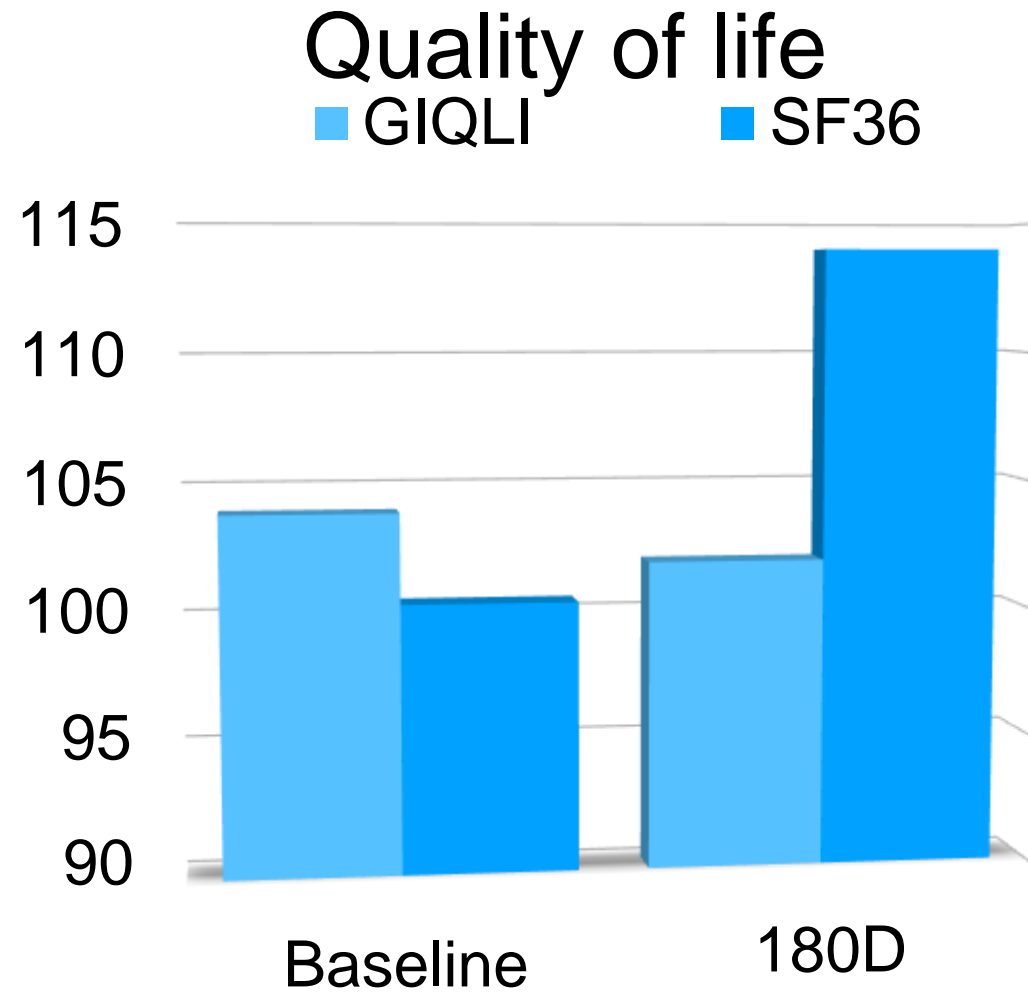
- Diarrhoea



- Abdominal pain



# Results



## Conclusions

- MAGNET System is feasible, safe and effective
- Maintain access to Mayor papilla
- Alternative of first step previous to SADI-S (Bipartition Concept)

# IBSC 2023

## Iberian Bariatric Surgery Course

Frontiers in Bariatric Surgery: Hiatus, duodenum & ileum



MMA

September 26-28, 2023

Hospital Clínico San Carlos







*“Latero-Lateral Duodeno-Ileostomy + Sleeve Gastrectomy with*

**Thank you** 

Professor of Surgery  
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**President IFSO 2011-2012**  
**Chairman IFSO’s Board of Trustees 2015-2019**