

NISSEN SLEEVE vs TOUPET SLEEVE

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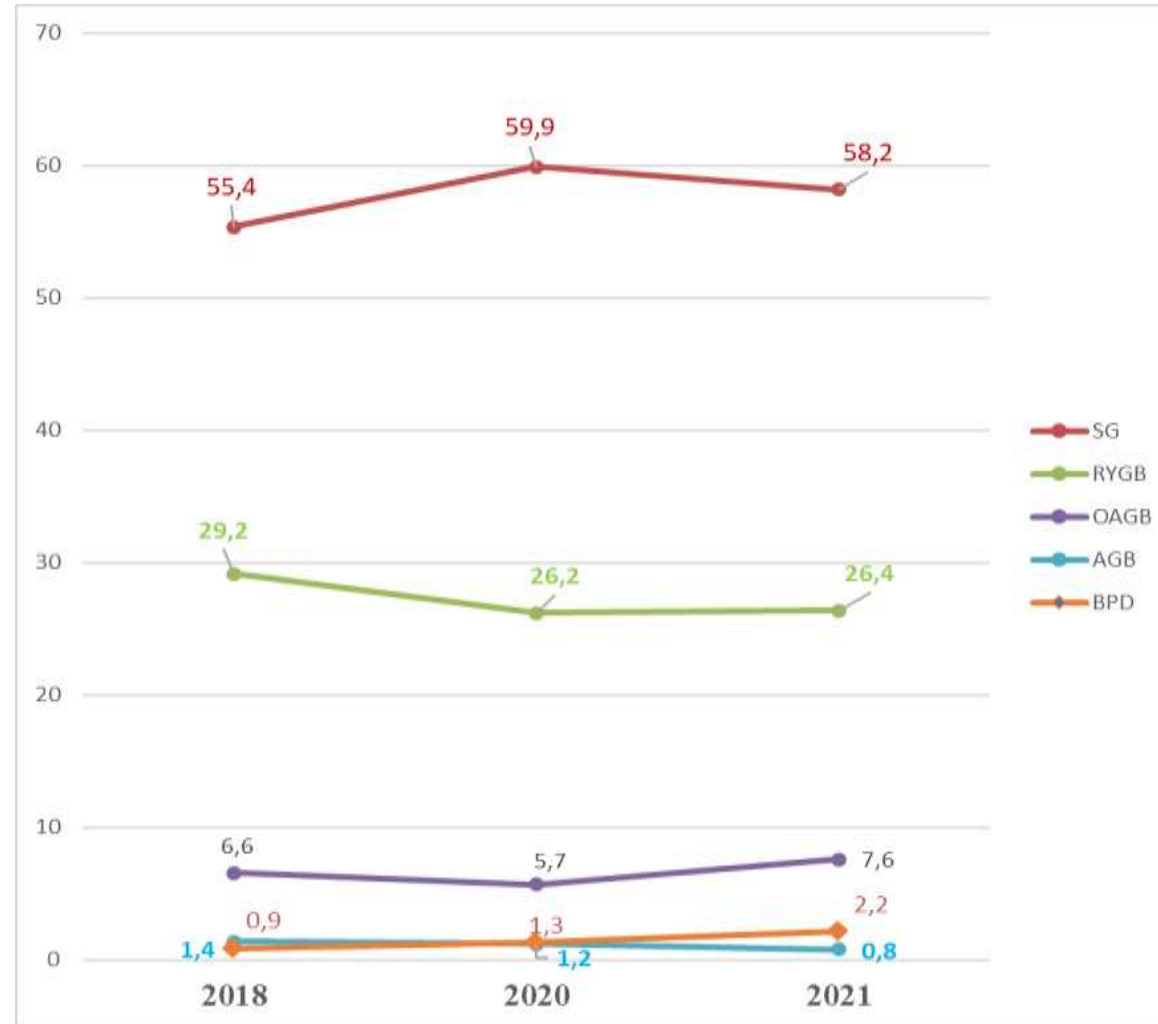


I have no potential conflict of interest to report





BARIATRIC PROCEDURES WORLDWIDE (2018-2021) TREND PERCENTAGES



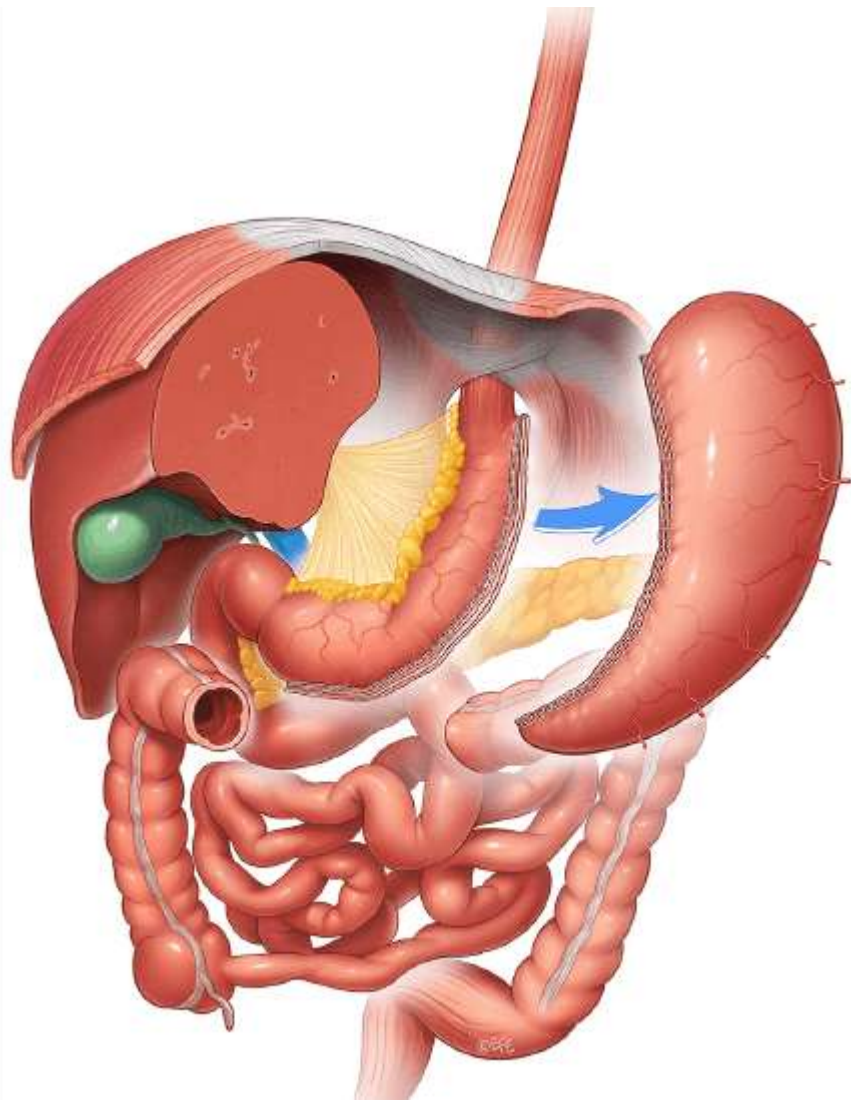
Unpublished data

WORLDWIDE SURVEY 2020-2021

Number and type of procedures worldwide

Unpublished data

	2018	2020	2021
Sleeve gastrectomy (SG)	386,096	304,352	351,689
Roux-en-Y Gastric Bypass (RYGB)	203,769	133,007	159,543
One Anastomosis Gastric Bypass (OAGB)	46,406	29,117	46,113
Biliopancreatic diversion (BPD)	6,506	6,896	13,378
Adjustable Gastric Banding (AGB)	9,757	6,116	5,010
Other surgical operations	14,346	13,949	13,238
Intragastric balloons	27,780	11,492	12,421
Other Endoluminal procedures	1,531	2,877	2,707
Total	696,191	507,806	604,099



PROS

↑ efficacy

↓ SURGICAL COMPLICATIONS

↓ metabolic complications

↑ versatility

↑ easy to revise

CONS

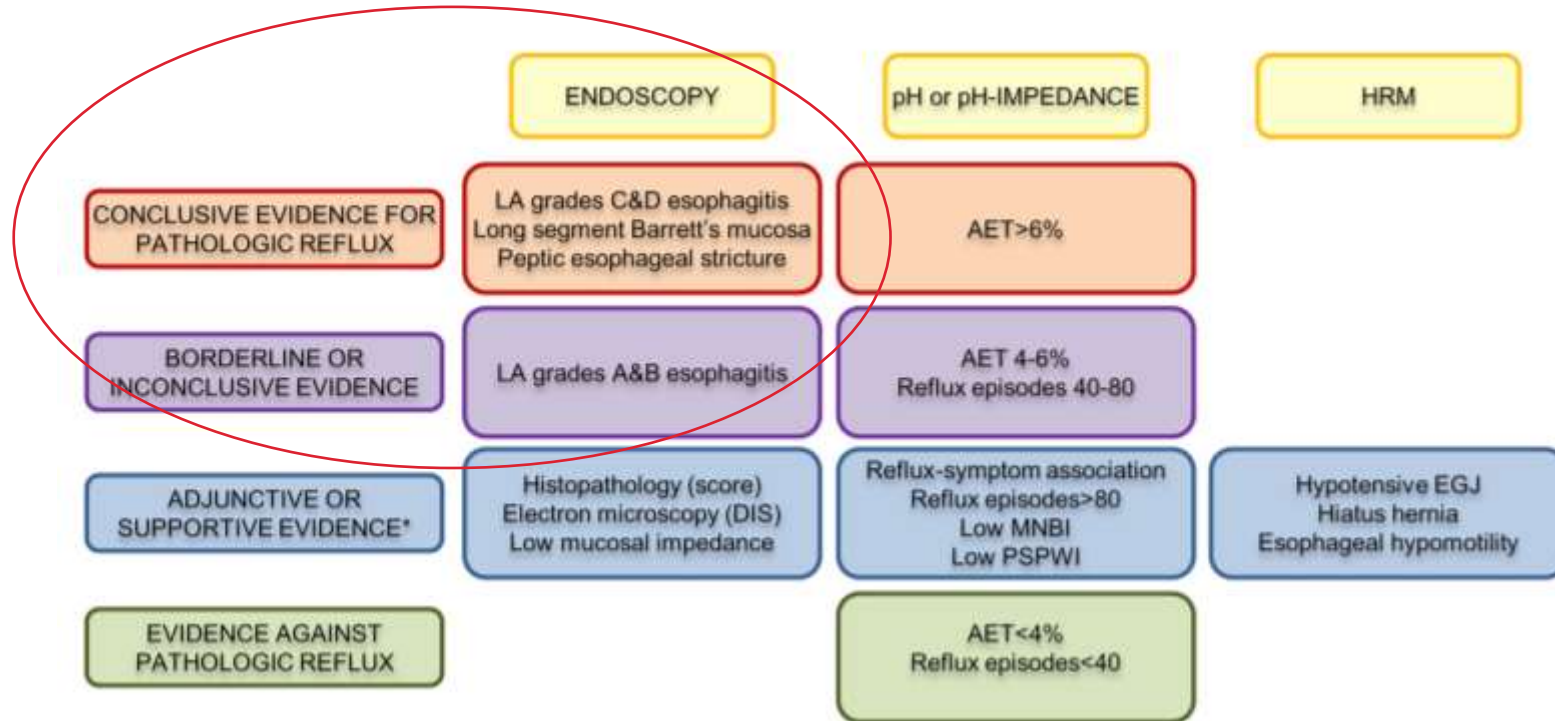
- GERD de novo or GERD recurrence in some patients



OPEN ACCESS

Modern diagnosis of GERD: the Lyon Consensus

C Prakash Gyawali,¹ Peter J Kahrilas,² Edoardo Savarino,³ Frank Zerbib,⁴
 Francois Mion,^{5,6,7} André J P M Smout,⁸ Michael Vaezi,⁹ Daniel Sifrim,¹⁰
 Mark R Fox,^{11,12} Marcelo F Vela,¹³ Radu Tutuian,¹⁴ Jan Tack,¹⁵ Albert J Bredenoord,⁸
 John Pandolfino,² Sabine Roman^{5,6,7}



NAPOLI
2023

TOPICS TO BE ADDRESSED

- Preoperative GERD diagnosis with its variables
- Intraoperative HH diagnosis
- Hiatal hernia repair
- **Adding fundoplication?**

- Recently, new techniques involving the creation of anti-reflux valves in association with LSG have been proposed to overcome this issue.
- Although concomitant hiatoplasty has been increasingly performed to treat Hiatal Hernia (HH) with both SG and Roux-en-Y gastric bypass, a consistent number of patients still complain of GERD during the post-operative follow-up.
- Sleeve gastrectomy (SG) with fundoplication is an emerging bariatric procedure (BP) in the treatment of patients with obesity and gastroesophageal reflux disease (GERD).
- Nevertheless, published research in this regard is extremely limited, and the evidence is quite conflicting

Systematic Review

Efficacy of Sleeve Gastrectomy with Concomitant Hiatal Hernia Repair versus Sleeve–Fundoplication on Gastroesophageal Reflux Disease Resolution: Systematic Review and Meta-Analysis

 Lidia Castagneto-Gissey , Maria Francesca Russo, Vito D'Andrea , Alfredo Genco and Giovanni Casella * 

15 articles = 554 pts SG + HHR; 610 pts SG + FP.

- In the SG + HHR group, $58.5 \pm 28.9\%$ of subjects presented clinical GERD symptoms compared to $20.4 \pm 17.5\%$ postoperatively ($p < 0.001$).
- In the SG + FP group, $64.8 \pm 39.4\%$ were affected by GERD preoperatively compared to only $5 \pm 8.1\%$ postoperatively.
- **SG + FP patients had a significantly greater GERD remission compared to SG + HHR ($p < 0.001$)**
- Weight loss was similar between groups ($p = 0.125$)
- perforations were significantly higher after SG + FP compared to the SG + HHR group (3.1% versus 0%, $p = 0.002$).

Post-op GERD

Pre-op GERD

Post-op GERD

Pre-op GERD

Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

BACKGROUND

> Acta Chir Belg. 2023 Feb;123(1):19-25. doi: 10.1080/00015458.2021.1922189. Epub 2022 Dec 15.

A case-control comparative study between Toupet-Sleeve and conventional sleeve gastrectomy in patients with preoperative gastroesophageal reflux

Philippe Hauters ¹, Etienne van Vyve ², Iulia Stefanescu ¹, Charles-Edouard Gielen ²,
Sylvie Nachtergaele ¹, Manon Mahaudens ¹

> Surg Laparosc Endosc Percutan Tech. 2022 Jun 1;32(3):324-328.
doi: 10.1097/SLE.0000000000001042.

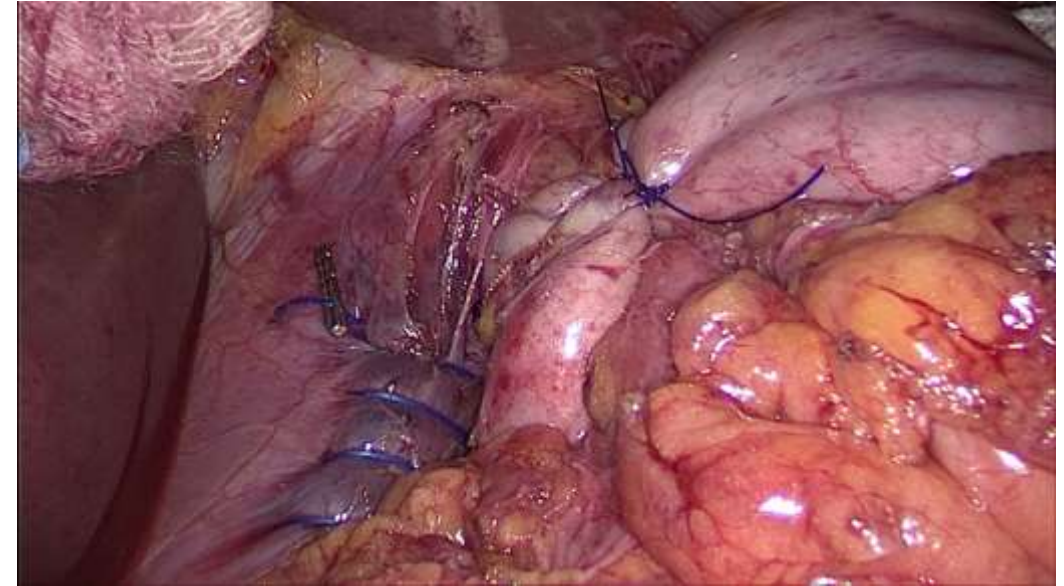
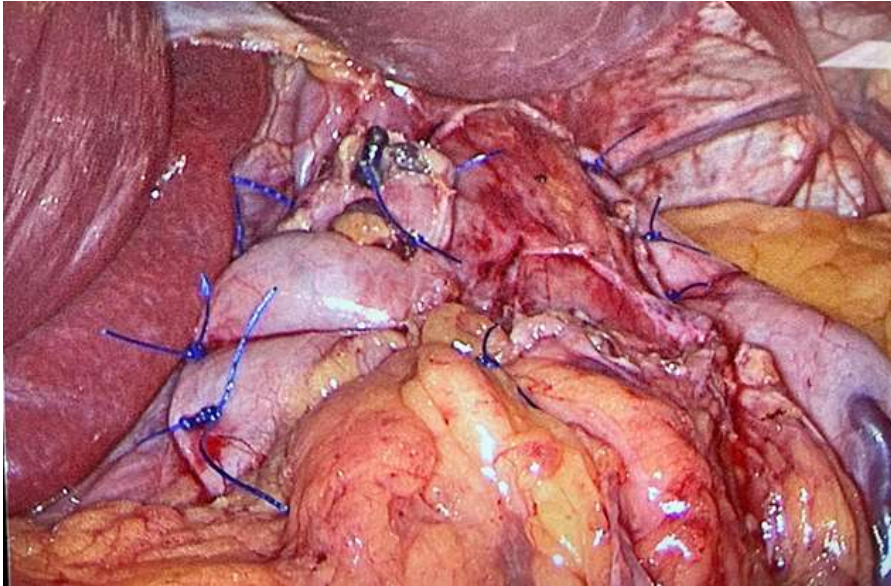
Combined Partial Toupet Fundoplication With Laparoscopic Sleeve Gastrectomy for Patients With Morbid Obesity and Symptomatic GERD: Preliminary Results of the T-sleeve Technique

Ahmet G Türkçapar ¹, Ozan Şen ^{1 2}



Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

The **aim** of this study was to demonstrate the **feasibility of T-SG and N-SG** and to compare the evolution of **upper gastrointestinal (GI) symptoms** in obese patients presenting with preoperative esophagitis and/or HH.



Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

MATERIALS AND METHODS

Total pts 58
(22 T-SG; 36 N-SG)

14 T-SG

mean **follow-up of**
38.3 ± 12.9 weeks

33 N-SG

- The two groups were matched by age, sex, BMI, the severity of esophagitis, HH, and Helicobacter Pylori status.
- All patients presented pre-operative GERD symptoms
- All patients performed a preoperative UGIE.
- The intensity-frequency of each **upper GI symptom** was compared using a **standardized questionnaire**.

Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

RESULTS

- The preoperative BMI was 37.3 ± 7.7 in the T-SG and 37.4 ± 2.7 in the N-SG (p=ns).
- 37 patients (78,7%) presented preoperative HH and 33 patients (70,2%) presented preoperative esophagitis

	T-SG	N-SG	TOT
PREOP HH	12 (85,7%)	25 (75,8%)	37 (78,7%)
PREOP ESOPHAGITIS	11 (78,6%)	22 (66,7%)	33 (70,2%)
	(ns)	(ns)	

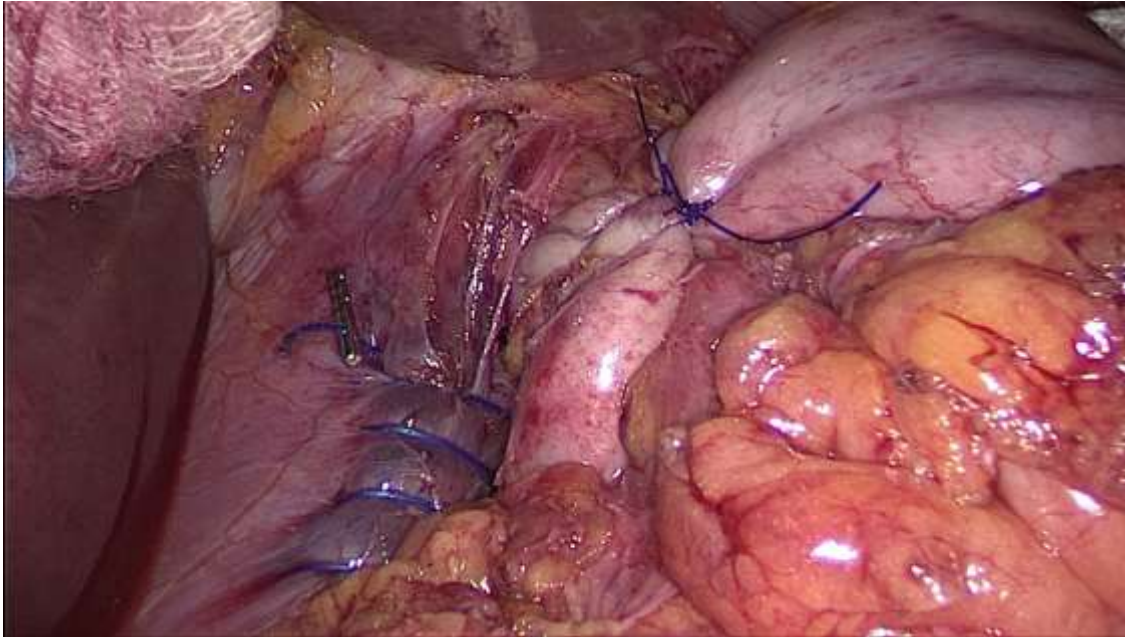
Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

RESULTS

- After BP there were no significant differences in weight loss between T-SG and N-SG with a mean BMI of 28.3 ± 3.3 in the T-SG ($p=0.003$) and 28.5 ± 4.2 in the N-SG ($p<0.001$) (TWL%= 25,16 vs 22,97)
- Significant improvement of GERD symptoms such as heartburn ($p<0.001$), regurgitation ($p<0.001$), cough ($p=0.006$), and epigastric burning ($p=0.007$) was shown after both BP.
- Three patients (6,38%) presented dysphagia and intractable vomiting (two after N-SG and one after T-SG) and required reoperation with gastric valve disassembling and fundectomy

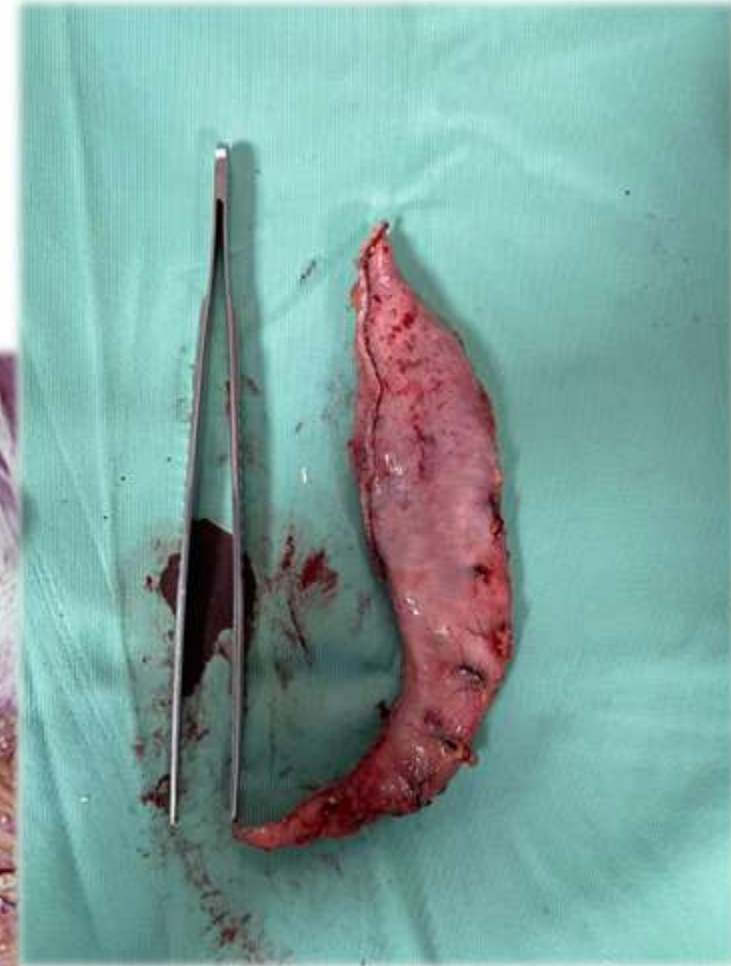
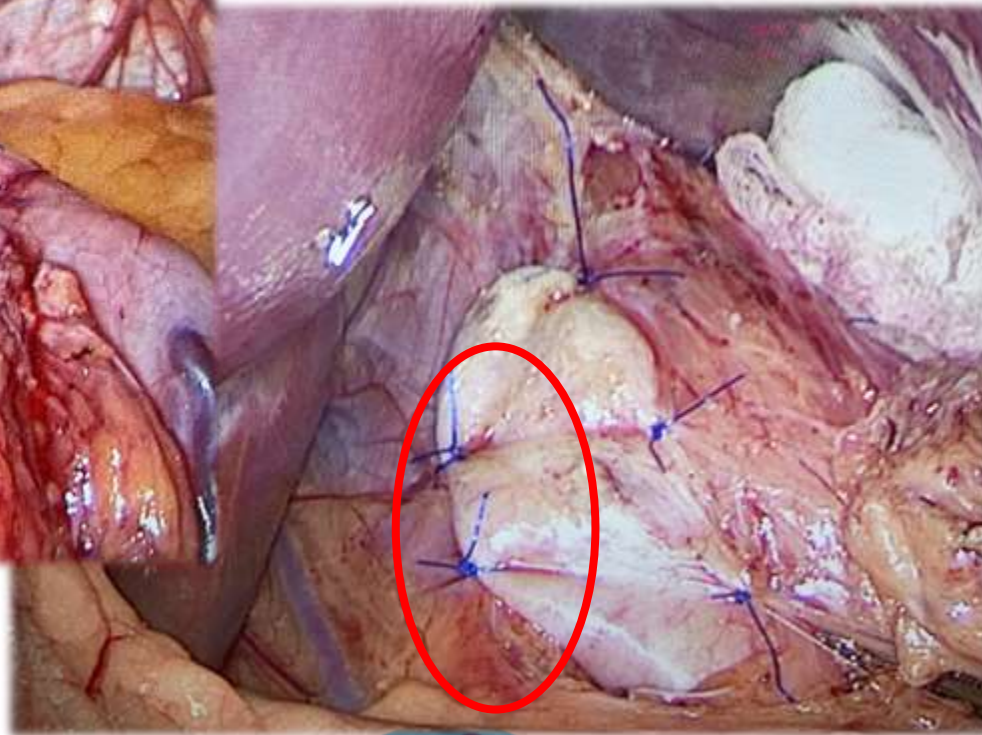
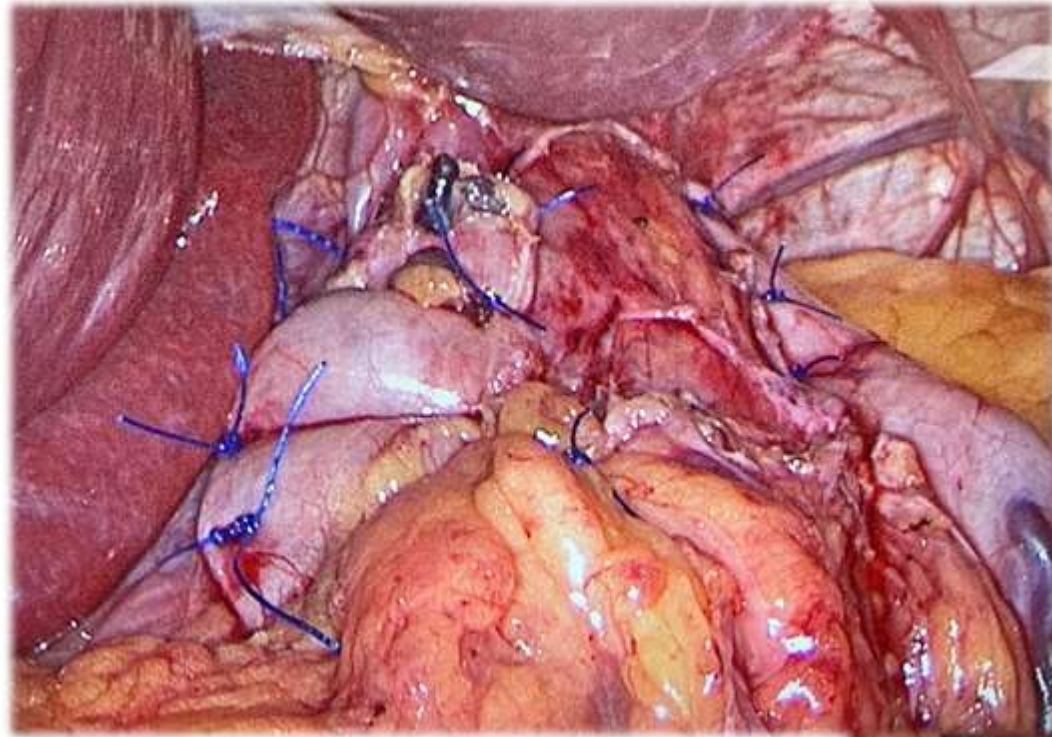
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Nissen- Sleeve

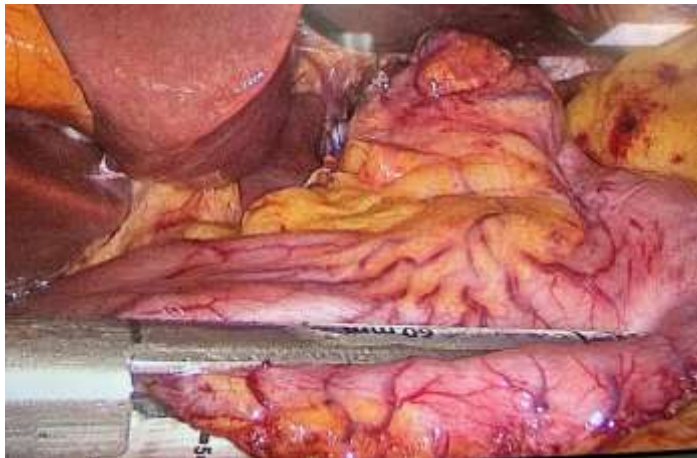
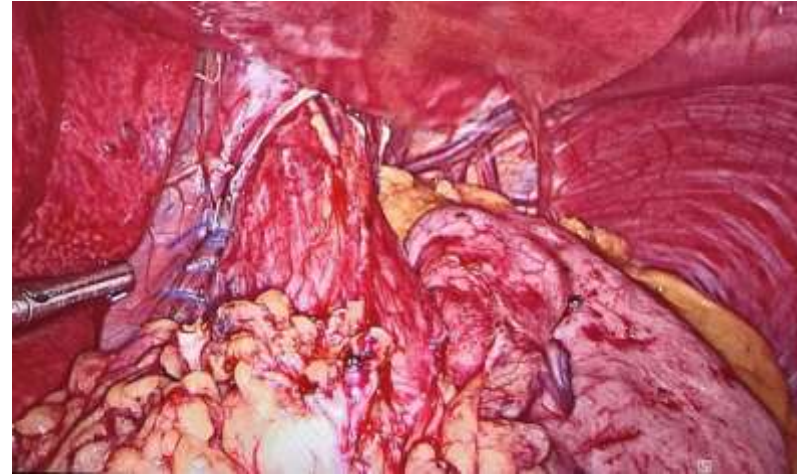
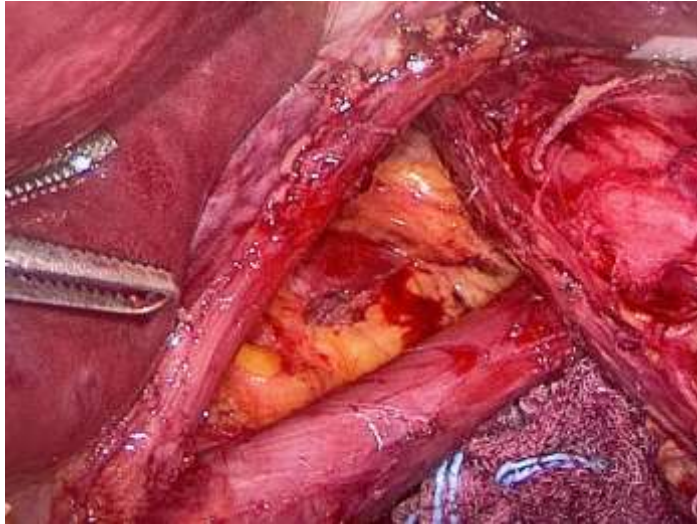


Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

Toupet- Sleeve

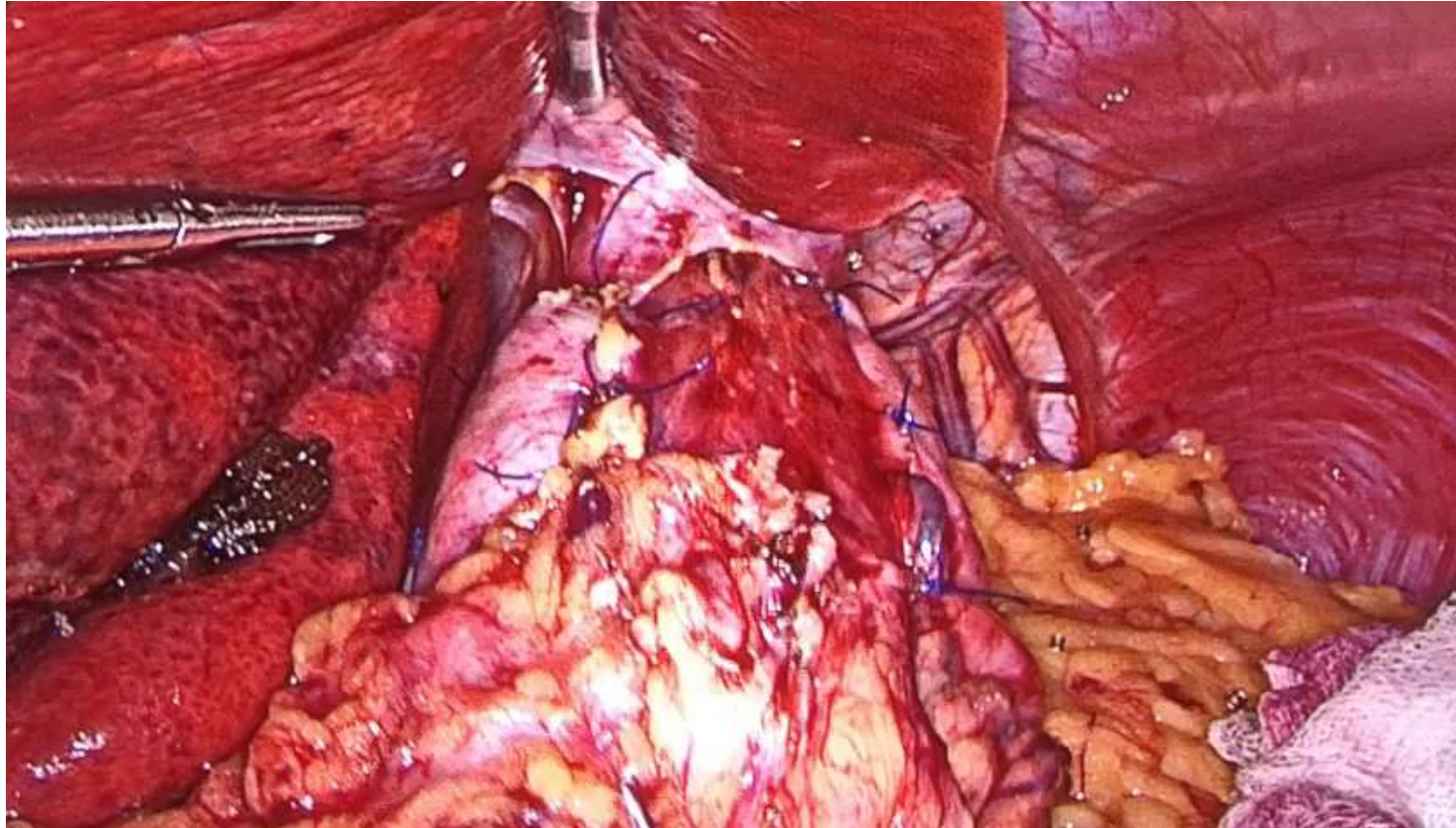


Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience



Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

Toupet- Sleeve



Toupet vs Nissen fundoplication associated to Sleeve Gastrectomy: An Initial Experience

CONCLUSIONS

- N-SG and T-SG are feasible and effective procedures for GERD treatment in obese patients with preoperative symptoms.
- GERD symptoms remission is statistically significant after both T-SG and N-SG.
- There are not significant differences in weight loss between T-SG and N-SG. Further prospective studies with long-term follow-up and a comparison with sleeve plus HHR are needed.
- In our experience, the learning curve expose the surgeon to a not negligible percentage of reintervention.
- The emerging bariatric procedures in pts with GERD and HH require an accurate preoperative assessment in order to identify EGJ competency, Hiatal hernia, and the presence of esophageal motility disorders.





Thank you!

