

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

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I have no potential conflict of interest to report



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## BACKGROUND

- Sleeve gastrectomy (SG) with fundoplication is an emerging bariatric procedure (BP) in the treatment of patients with obesity and gastroesophageal reflux disease (GERD).
- 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.
- Recently, new techniques involving the creation of anti-reflux valves in association with LSG have been proposed to overcome this issue.
- 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

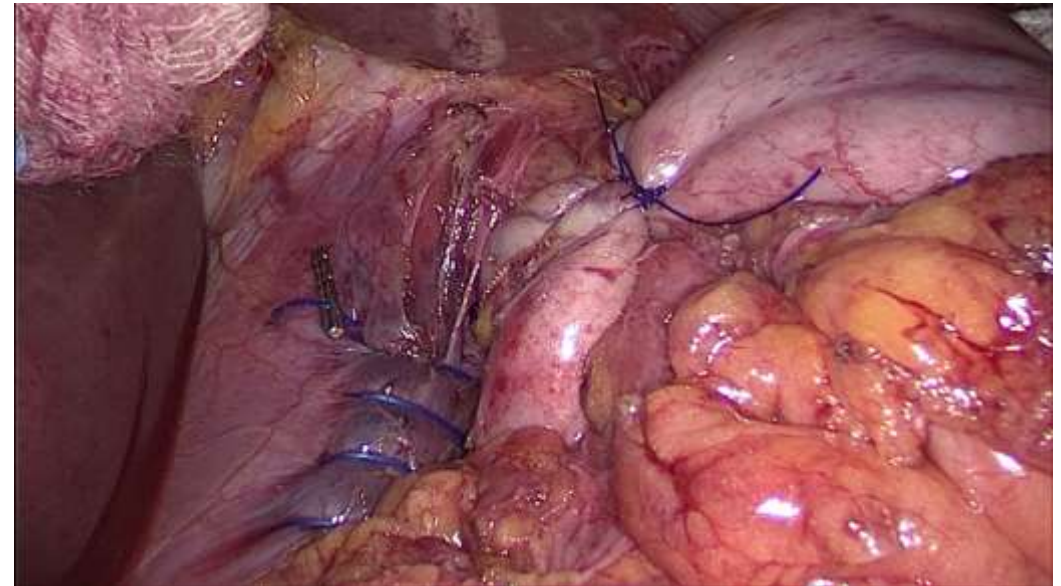
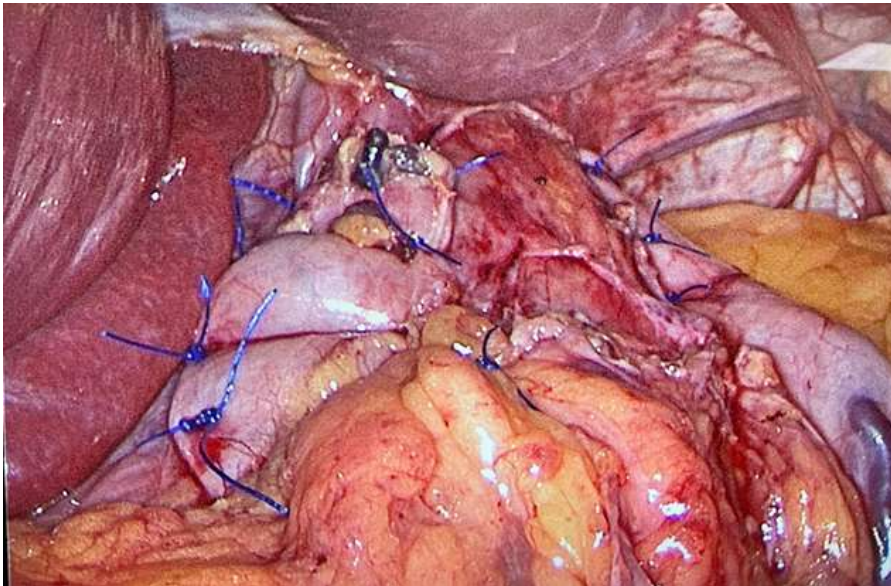
Post-op GERD

Pre-op GERD

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## BACKGROUND

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.



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## 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**.

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## RESULTS

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

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

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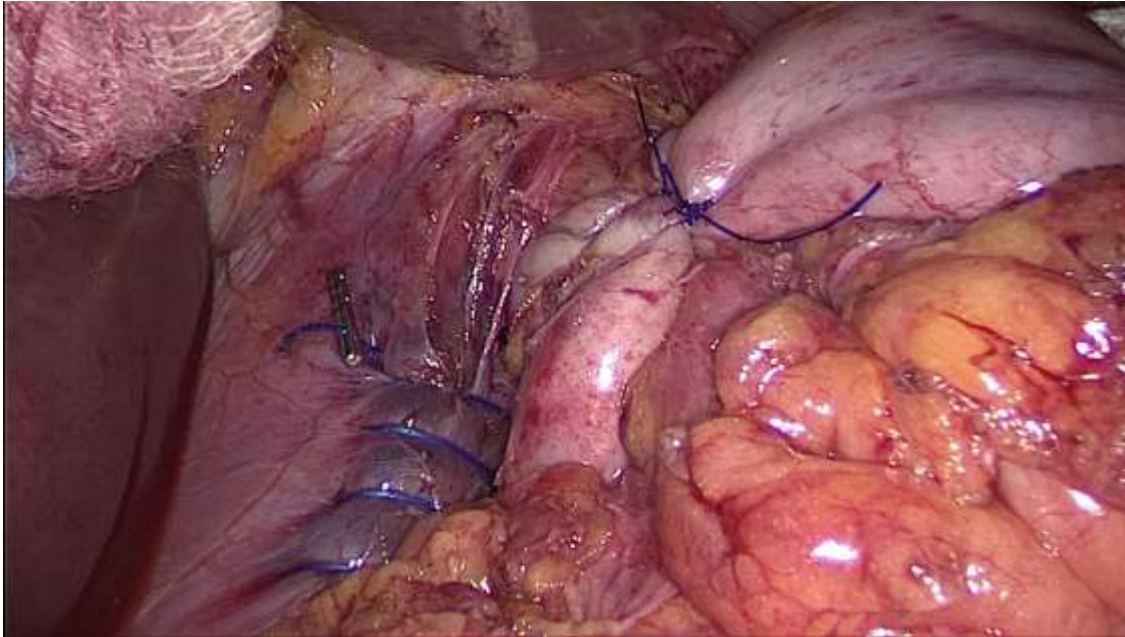
## RESULTS

- After BP there were no significant differences in weight loss between T-SG and N-SG with a mean BMI of  $28.3 \pm 3.3$  in the T-SG ( $p=0.003$ ) and  $28.5 \pm 4.2$  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



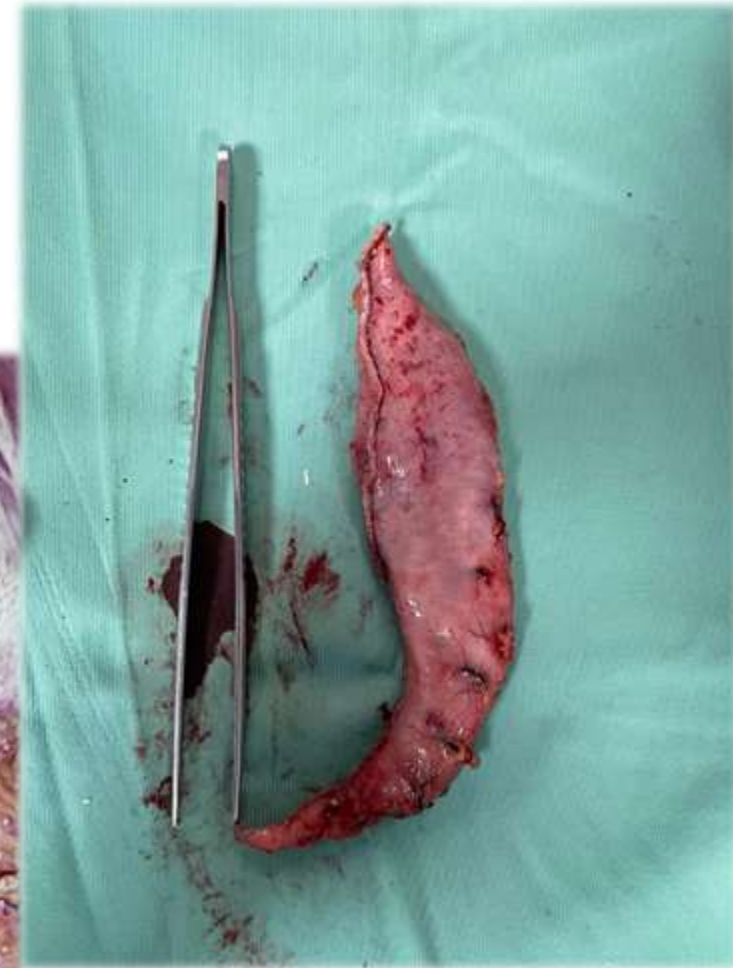
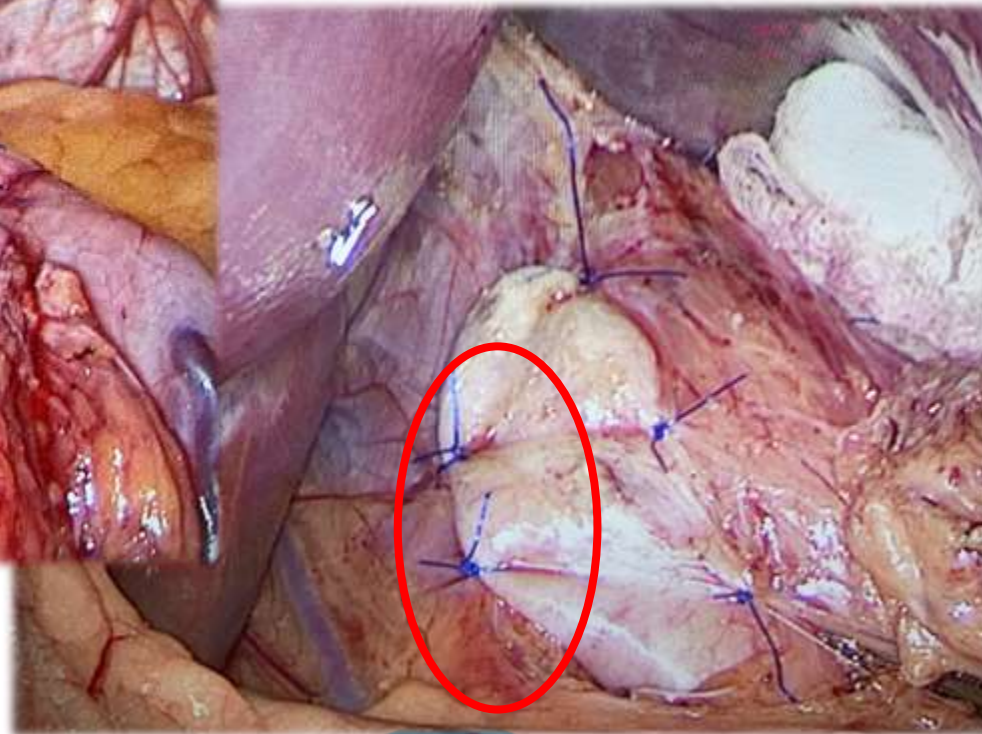
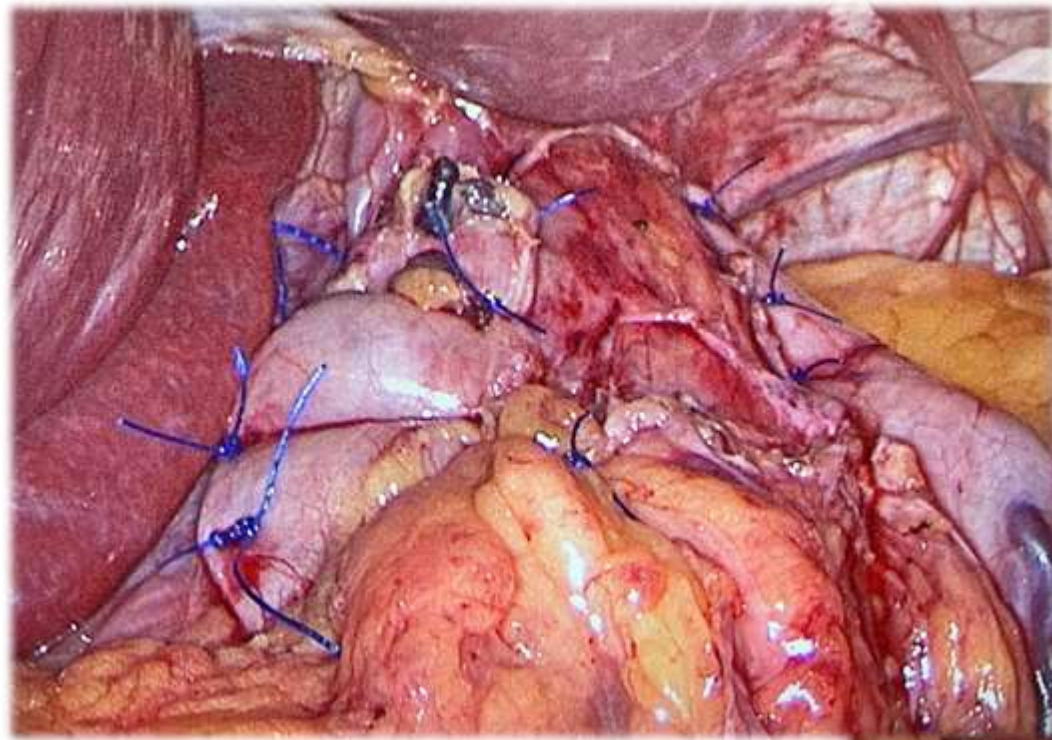
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## Nissen- Sleeve

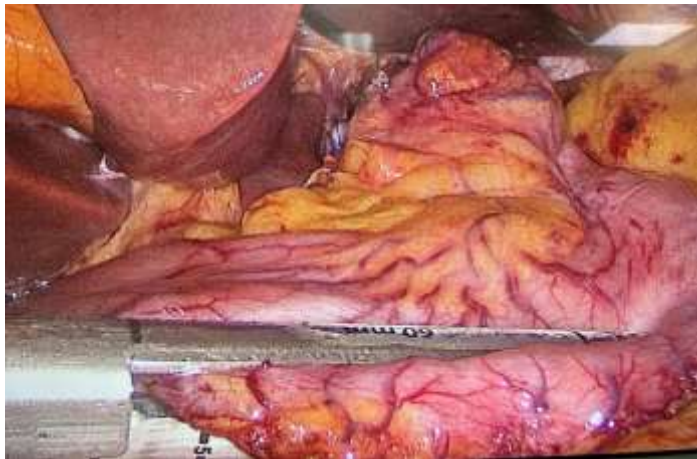
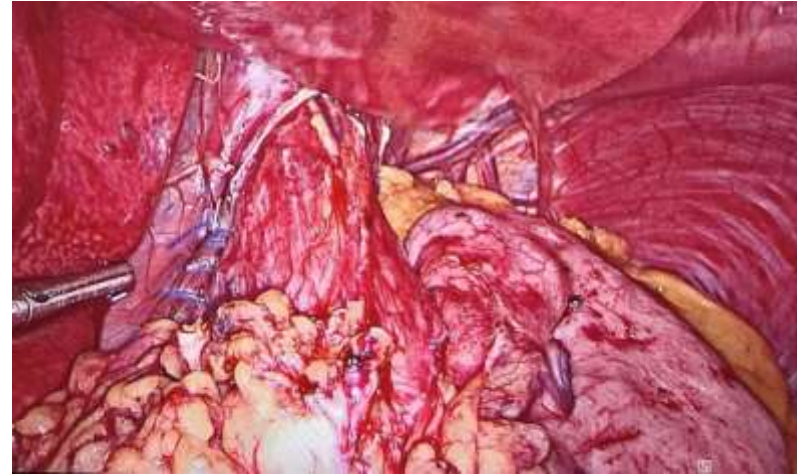
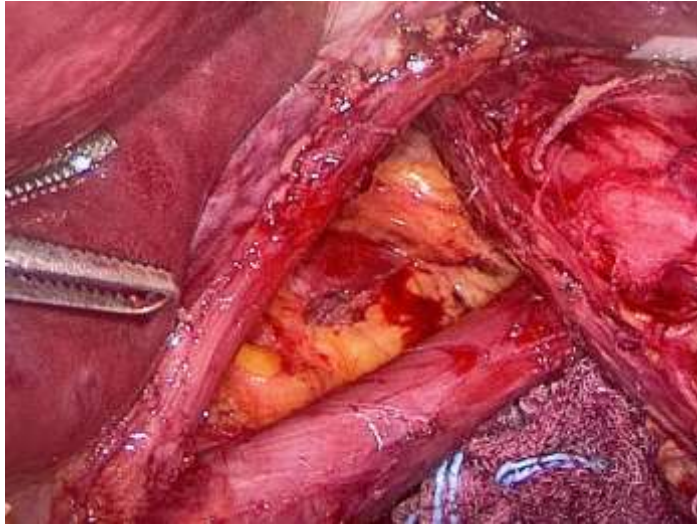


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## Toupet- Sleeve

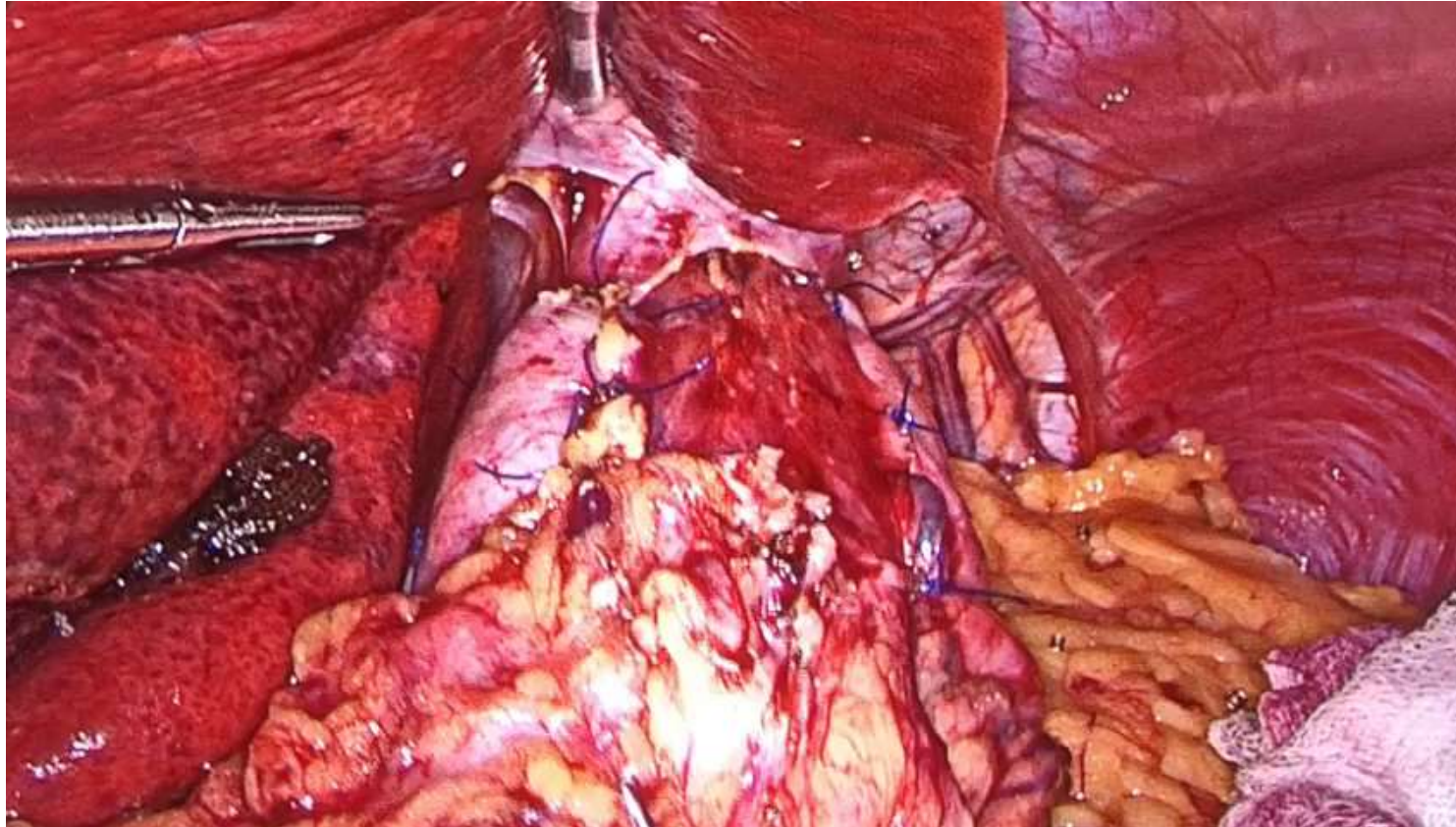


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## Toupet- Sleeve



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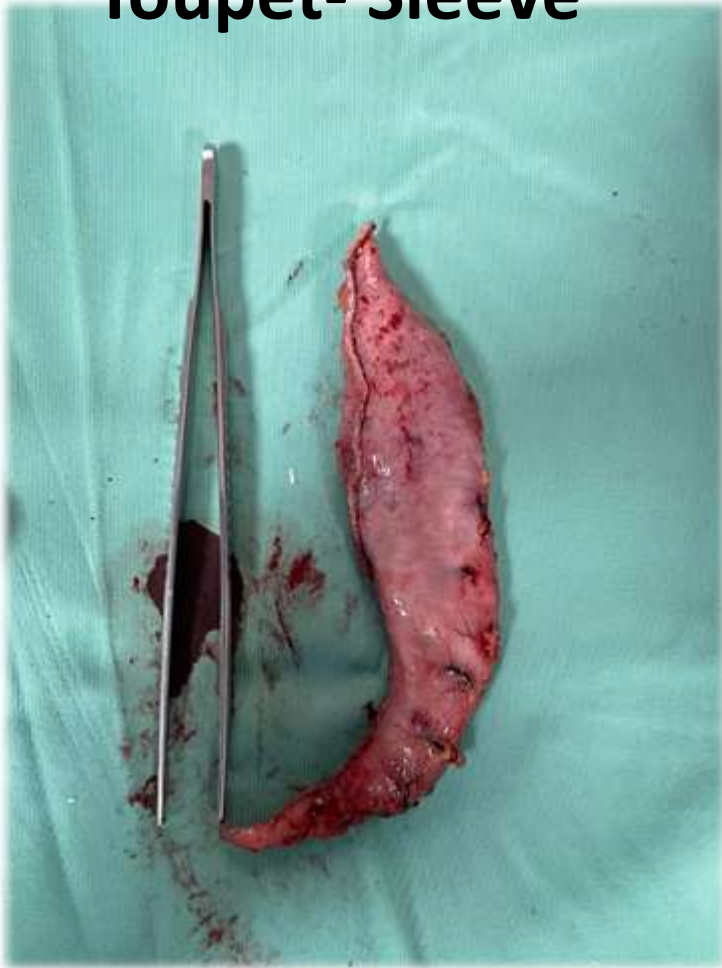
## CONCLUSIONS

- 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.



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

## Toupet- Sleeve



## Nissen- Sleeve



## Sleeve





Thank you!

