Assessing the Utility of Intraoperative Endoscopy in Laparoscopic Sleeve Gastrectomy

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Background

- Complications associated with laparoscopic sleeve gastrectomy (LSG) include staple line bleeding and leak.
- Intraoperative endoscopy (EGD) is frequently performed for patients undergoing bariatric surgery, however its usefulness for identifying staple line complications is unclear.

Aims

- This study aims to establish the rate of endoscopic detection of staple line complications including leak and bleeding requiring intervention.
- Secondary outcomes include the impact of EGD on operative time.

Methods

- We performed an IRB-approved retrospective review of 516 patients who underwent LSG between 2009-2020.
- Patients with simultaneous cholecystectomy or robotic sleeve gastrostomies were excluded.
- Baseline demographic and clinical characteristics, as well as operative outcomes were compared with the Mann-Whitney U test (continuous variables) and Chi-squared or Fisher's exact test (categorical variables).
- Post-operative BMI was collected from any visit between 6-18 months postoperatively.
- If multiple visits were recorded, the weight from the visit closest to 12 months was chosen.

Results

Table 1. Demographic, clinical, and operative outcomes

Variable (n=516)	LSG + EGD	LSG alone	p-value
Demographics			
Age, years, median (Q1,Q3)	40 (30,49)	39 (31,48)	0.72
Sex, female (%)	243 (82.4)	176 (79.6)	0.43
Clinical Information			
DM (%)	84 (28.5)	49 (22.2)	0.11
HTN (%)	142 (48.1)	98 (44.3)	0.39
OSA (%)	91 (30.9)	103 (46.6)	0.0003
Smoker (%)	77 (26.1)	33 (14.9)	0.0022
Operative Outcomes			
EBL, mL, median (Q1,Q3)*	40 (30,50)	30 (30,40)	<0.0001
OR time, minutes, median (Q1,Q3)*	122 (103,155)	95 (84,110)	<0.0001
Intra-operative leak (%)	0 (0)	0 (0)	--
Intra-operative bleed (%)	1 (0.3)	0 (0)	1.00
Post-operative leak (%)	4 (1.4)	0 (0)	0.14
Post-operative bleed (%)	3 (1.0)	0 (0)	0.26
Change in BMI, median, (Q1,Q3)**	-12.8 (-16.2,-9.6)	-12.5 (-15.2,-10.0)	0.57

*6 missing,
**114 lost to follow-up and excluded

- No leaks or bleeding requiring intervention were identified intraoperatively (Table 1).
- Four patients (0.78%) re-presented with leaks (p=0.14) in the postoperative period.
- Three patients (0.58%) had reoperation for post-operative bleeding (p=0.26).
- All patients with complications had normal intraoperative endoscopies.
- Mean operative time in the LSG + EGD group statistically significantly higher (p<0.0001).
- There were no complications related to the EGD itself.

Conclusion

- While leaks and bleeding events are feared early complications of LSG, our results suggest that these complications are unlikely to be identified intraoperatively.
- Further, EGD is associated with longer mean operative times.
- Routine use of intraoperative EGD should be left to the discretion of the surgeon but should not be considered an essential adjunct to the LSG.

References

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