Absorbable Polymer Matrix Staple Line Reinforcement: An Analysis of Outcomes

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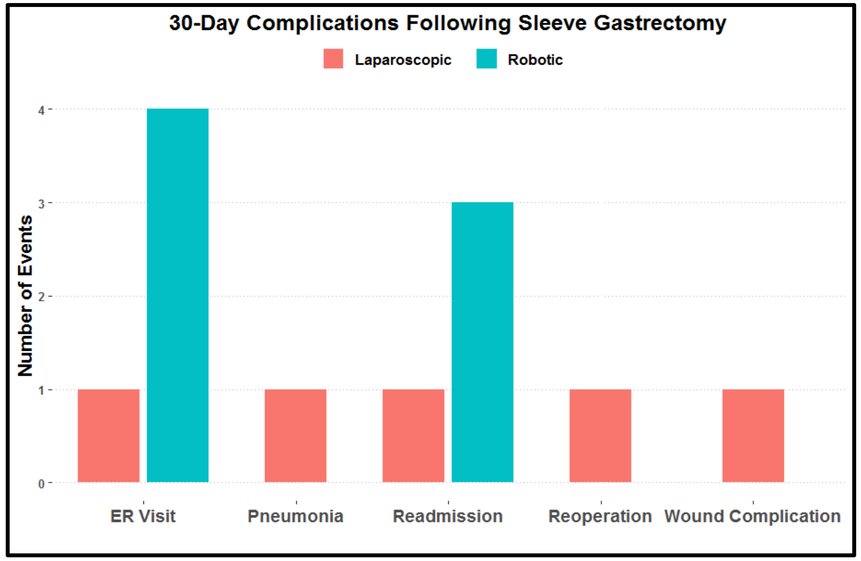
Background

- The prevention of staple line complications following laparoscopic sleeve gastrectomy (LSG) has been the focus of considerable research; however, as robot-assisted sleeve gastrectomy (RSG) becomes more prevalent, it is unclear how effectively laparoscopic technologies will translate to a robotic platform.
- We evaluated the use of an absorbable polymer matrix (APM; Gore Seamguard, W.L. Gore & Associates, Inc, Flagstaff, AZ) on the occurrence of complications after RSG compared to LSG, including staple line related complications.

Methods

- A single surgeon retrospective review of patients undergoing either LSG or RSG using APM from August 2019 to June 2021 was performed.
- 30 day complications, readmissions, leak rates, reoperations, and mortality were compared between RSG and LSG.
- Percent excess weight loss (%EWL) and change in BMI were compared at 1, 3, and 6 months.
- Normally distributed data were compared using the appropriate t-test. Skewed data were compared using Wilcoxon rank sum test.

Variable		Laparoscopic (n=102)	Robotic (n=87)	P
Age, years	Median (IQR)	44 (34-52)	39 (32-49)	0.031
Sex, n (%)	Female	87 (85%)	71 (82%)	0.50
Race/Ethnicity, n (%)	Non-Hispanic White	75 (74%)	64 (74%)	1.00
	Non-Hispanic Black	27 (26%)	23 (26%)	
Pre-Operative Weight, kg	Median (IQR)	121 (110-137)	125 (113-140)	0.26
Pre-Operative BMI	Median (IQR)	45.0 (40.0-49.0)	45.0 (41.5-49.4)	0.31
Follow-up Time, years	Median (IQR)	0.51 (0.25-1.03)	0.32 (0.21-0.55)	0.0026



Results

- 189 patients met inclusion criteria including 87 RSG (46%) and 102 LSG (54%).
- Median patient age was 39 years (IQR 32-49) and 44 (IQR 34-52) for RSG and LSG, respectively (chart).
- Preoperative BMI was similar between RSG (median 45, IQR 40-49) and LSG (median 45, IQR 42-49, p=0.31) (chart).
- There were no leaks in either the RSG or LSG groups (0%). There were no mortalities (table).
- There was one deep organ space infection in the LSG group(1%) requiring reoperation for abscess drainage (table).
- %EWL was greater for patients undergoing RSG compared to LSG at 1 month, but similar at 3 and 6 months (not pictured).

Conclusion

- The use of APM for staple line reinforcement has similar outcomes for RSG as LSG and should be considered a viable option for either approach.

The authors have no disclosures.