Robotic Assisted Versus Laparoscopic Sleeve Gastrectomy: An Analysis of Outcomes and Feasibility

Oliver Knoell MD, Sarah Assali DO, Zachary Spigel MD, Conor Maxwell DO and Kellen Hayes MD

Allegheny Health Network – Pittsburgh, PA

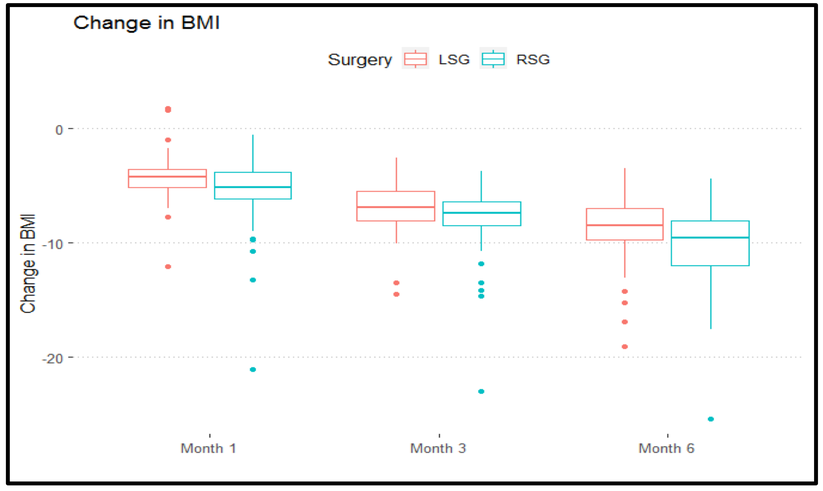
Background

- The importance of surgical weight loss continues to rise in the setting of increased obesity prevalence.
- Laparoscopic Sleeve Gastrectomy (LSG) is the most common weight loss surgery performed.
- The utilization of robotic surgical technology has increased due to improved visualization and dexterity, resulting in its application to bariatric procedures.
- Robotic Sleeve Gastrectomy (RSG) has been explored as a potential alternative to LSG.

Methods

- A single surgeon retrospective review of patients undergoing either LSG or RSG from August 2019 to June 2021 was performed.
- 30 day outcomes were assessed for complications, leak rate, reoperations, and mortality.
- 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.





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.
- Preoperative BMI was similar between RSG (median 45, IQR 40-49) and LSG (median 45, IQR 42-49, p=0.31).
- There were no leaks in the RSG or LSG groups (0%). One patient in the LSG group had an organ space abscess requiring reoperation (1%). There were no mortalities.
- %EWL was greater for patients undergoing RSG versus LSG at 1 months but similar at 3 and 6 months.
- Patients undergoing RSG had greater decrease in BMI at all time points (table).

Conclusion

- RSG demonstrates a safe and effective alternative to LSG, with similar perioperative outcomes and weight loss at 3 and 6 months.
- Future studies are necessary to analyze operative times and cost-effectiveness.

The authors have no disclosures.