Title: Comparison of medial versus lateral approach for laparoscopic sleeve gastrectomy

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Objective: To compare the clinical outcomes of medial versus lateral approach for laparoscopic sleeve gastrectomy (LSG).

Methods: Retrospective analysis of Ontario Bariatric Registry database, comparing two surgeons at a single institution who perform medial and lateral LSG. Surgical complications, operative time, length of stay (LOS) and 30-day mortality were evaluated. Rates of anastamotic leak, hemorrhage, stenosis/stricture, and hospital readmission were also studied at 3 months. Percent total weight loss was calculated at 1 year post-operative. The analysis of continuous and nominal data was performed using the two sample t-test, and Chi-square test, respectively. Regression analysis was also performed.

Results: A total of 411 patients underwent LSG with either a medial (n=247) or lateral (n=164) approach. There was no significant difference in surgical complications ($p = 0.818$) or mean LOS ($p=0.399$). Operative time was significantly shorter in the medial group 70 ± 16 minutes versus 88 ± 28 minutes in the lateral group ($p<0.001$)). Linear regression analysis demonstrated gender ($p=0.00717$) and operative approach ($p<0.001$) as significant variables affecting OR length. The 30-day mortality in both groups was zero. Rates of complication and hospital readmission at 3 months were not significantly different between groups. Anastamotic leak rates were 0 versus 1.9% ($p = 0.409$) in the lateral and medial group, respectively. Percent total weight loss was not significantly different between groups at 1 year ($p=0.244$).

Conclusion: Rates of complications, LOS, and percent total weight loss at 1 year are not significantly different between medial versus lateral LSG. The medial approach may decrease operative time, this finding warrants further study.