Extended Study Comparing Weight Loss Outcomes After Conversion From Sleeve Gastrectomy To Either Roux-En-Y Gastric Bypass Or Duodenal Switch At A Community Hospital

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Introduction

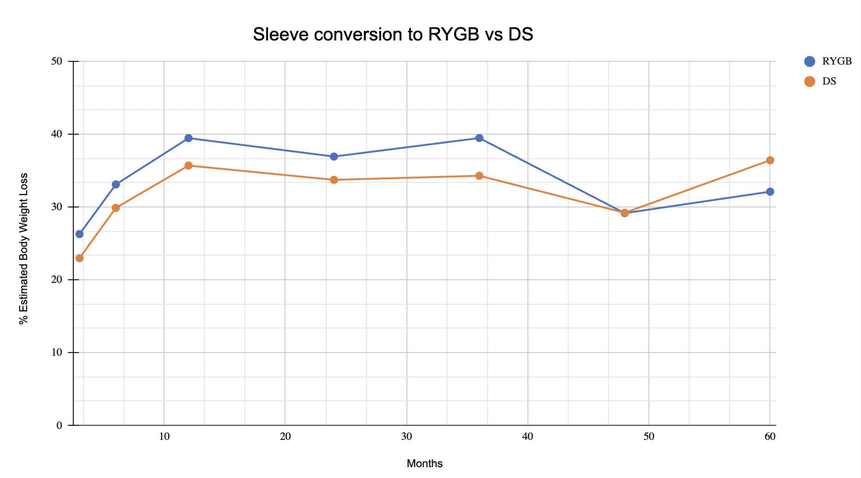
Sleeve gastrectomy (SG) is the most commonly performed bariatric surgery in the United States, accounting for over 57% of all bariatric surgeries. Over 150,000 are performed annually, with an expected 50-60% excess body weight loss. However, due to unsatisfactory initial weight loss, or weight re-gain, or complications such as intolerable gastroesophageal reflux, some patients will elect for conversion to either Roux-en-Y gastric bypass (RYGB) or duodenal switch (DS). Although conversion surgery rates are rising, there is limited comparison data between these surgeries. Our study aims to directly compare weight loss outcomes for patients converting from SG to RYGB vs. DS over an 8 year period.

Methods

This single-institution retrospective study reviewed data from 105 patients who underwent conversion from SG to RYGB (N= 53) or DS (N=52) between 2015-2023, using ICD-10 code matching. Both biliopancreatic diversion with duodenal switch (BPD-DS) and single anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) were grouped under the DS category. Patient demographics were compared between cohorts. The analysis examined excess body weight loss (EBWL) at 3, 6, and 12 months, then annually up to 5 years. Secondary measures such as length of stay, procedure length, and 30-day readmission rate were also reviewed. EBWL was calculated from time of revisional surgery, not initial sleeve gastrectomy. All procedures were performed laparoscopically. Both cohorts received identical perioperative care.

Methods

Comparisons between RYGB and DS were made using unpaired T-test with 95% confidence interval (CI). To examine significant weight loss across time intervals, average %EBWL was compared using paired T-tests for each time interval. Due to loss of follow up, data was less complete at longer time intervals (49 RYGB vs. 45 DS, 3 months), (41 vs 32, 6 months), (44 vs 34, 12 months), (35 vs 26, 2 years), (26 vs 21, 3 years), (24 vs 9, 4 years), (19 vs 5, 5 years).



Results

Statistically significant decrease in %EBWL for conversion to RYGB vs. DS were as follows: 26% vs 23% at 3 months (p=0.5123), 33% vs 29.9% at 6 months (p=0.3699), 39.5% vs 35.7% at 12 months (p=0.3460), 36.9% vs 33.7% at 2 years (p=0.5671), 39.5% vs 34.3% at 3 years, (p=0.4514), 29.2% vs 29.2% at 4 years(p=0.9951), and 31.1% vs 36.4% at 5 years (p=0.7556). Weight loss in both groups was statistically significant from 3 vs. 6 months and 6 vs. 12 months, ($p<0.0001$). There was no significant weight loss at longer follow-up intervals. There was not a significant difference in weight loss between RYGB vs. DS at any time interval, although there was a trend to greater weight loss with RYGB. Average LOS was 2.45 vs. 2.75 days (p=0.3465) with procedure duration 133 vs 180 minutes ($p<0.0001$).

Discussion

-Both groups experienced significant weight loss from 3 to 6 months and from 6 to 12 months, without significant weight change thereafter.
-Weight loss plateaued at 35-40% for both groups, which is similar other studies on revisional bariatric surgery.
-This represents an additional 40% EBWL from pre-revision weight, after original weight loss from sleeve gastrectomy.
-There was no significant difference in weight loss between RYGB vs. DS, but a trend towards RYGB.
-These data suggest that RYGB or DS are equivalent revisional procedures.
-RYGB has advantage of treating GERD.
-More surgeons are familiar with RYGB.
-Our study was limited by loss to follow up at later time intervals, single center/demographics

Conclusion

Both revisional RYGB and DS demonstrated significant weight loss over the first 12 months without significant differences in EBWL for up to 5 year follow up. Weight loss was significant for the first 12 months, before plateauing. The DS procedure was significantly longer than RYGB without difference in LOS. Overall, both procedures are appropriate choices for conversion in patients who have undergone sleeve gastrectomy who are still looking to benefit from further weight loss and show durable weight loss for 12 months after the procedure.

Acknowledgements

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