

"Revisional surgery results after sleeve gastrectomy. A retrospective cohort study comparing gastric bypass, re-sleeve, 2nd stage duodenal switch, and single anastomosis duodeno-ileal bypass"

Dr. Ali Aboalsaud¹, Dr. Lamees Almutlaq¹, Dr. Zvi Perry¹, Dr. Mohammed Al Abri¹, Dr. Olivier Court¹, Dr. Sebastian Demyttenaere¹, and Dr. Amin Andalib¹

¹ *Center for Bariatric Surgery, Division of General Surgery, Department of Surgery, McGill University, Montreal, Quebec, Canada*

Introduction

Sleeve gastrectomy is becoming the most popular bariatric procedure in the world. However, there is ongoing debate as to the appropriate surgical procedure after failed sleeve gastrectomy. In this study, we aimed to evaluate patients who underwent prior sleeve surgery and subsequently underwent Roux-en-Y gastric bypass (RYGB), re-sleeve, biliopancreatic diversion with duodenal switch (BPD/DS), or single anastomosis duodeno-ileal bypass (SADI-S).

Methods

A retrospective analysis of a prospectively maintained database of laparoscopic sleeve gastrectomies (LSG) was performed between January 2006 and October 2018. Data analyzed included age, weight loss, postoperative complications and long-term outcomes.

Results

136 patients who had LSG and then revisional surgery were included, of which 91 (67%) were female patients and 45 (33%) were male patients. 24 of the 131 (17.6%) patients underwent a conversion to RYGB, 16 (11.8%) underwent re-sleeving, 91 (67%) underwent BPD/DS, while 5 (3.7%) underwent SADI-S. Basic demographics were the same, and other long-term results were similar between the groups. There was no difference in the mean preoperative body mass index (BMI) in the primary sleeve groups (47.9kg/m² in the RYGB, 49.3kg/m² in the re-sleeve group, 63.5kg/m² in the BPD/DS group, and 59.6kg/m² in the SADI-S group; $p=0.7$). Mean BMI prior to revision was similar in the groups (40.6kg/m² in the RYGB group, 41.2kg/m² in the re-sleeve group, 46.3kg/m² in the BPD/DS group, and 44.6 kg/m² in the SADI-S group). Mean BMI after revisional surgery was also similar (35.7kg/m² in the RYGB group, 36.9kg/m² in the re-sleeve group, 39.5kg/m² in the BPD-DS group, and 41kg/m² in the SADI-S group). In the RYGB, re-sleeve, and BPD-DS groups, the difference in BMI before the revision and at the end of our follow up period was significant (In the RYGB group it changed from a BMI of 40.6kg/m² to a BMI of 35.7kg/m², $p<0.001$; in the re-sleeve group it changed from a BMI of 41.2kg/m² to 36.9kg/m², $p<0.001$, and in the BPD-DS group it changed from BMI of 46.3kg/m² to 39.5kg/m², $p<0.001$) while in the SADI-S group, the difference in BMI before the revision and at the end of our follow up period was statistically insignificant (from BMI 44.6kg/m² to 41kg/m², $p=0.6$).

Discussion and Conclusions

Controversy exists regarding technical aspects of revisional LSG. re-sleeving, RYGB, and BPD/DS post sleeve showed similar results in weight loss and drop in BMI post-surgery. Short and long-term results and complications were similar. Longer follow up is needed to determine if this small improvement in excess weight loss remains significant.