

evolution, lower insulin levels and lower hepatic enzymes level. A multivariate regression analysis revealed that patients with gastric sleeve were more likely to develop symptomatic gallstones.

**CONCLUSIONS:** Although further studies are required, the management of gallstones in morbidly obese patients should not be different from normal-weight patients. Therefore, performing a laparoscopic cholecystectomy only in symptomatic patients is an effective approach and asymptomatic gallstones should not be treated at the time of bariatric surgery.

### Incretin Hormone Changes after Sleeve Gastrectomy



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**INTRODUCTION:** Sleeve Gastrectomy (SG) can lead to weight loss and diabetes remission although the underlying mechanism is unknown. We hypothesized that unlike RYGB, there are not similar changes in incretin or insulin secretion after this surgery and that the anti-diabetes effects are mostly mediated through weight loss. This hypothesis was studied in a rodent model.

**METHODS:** Rats underwent a stapled SG (n=6), or short gastric vessels ligation without gastrectomy (Control; n=6). After 4 weeks, jugular and portal veins catheters were placed for blood sampling. Systemic and portal venous blood samples were taken at baseline and 10, 30, and 60 minutes after duodenal glucose infusion. Portal and systemic levels of hormones GLP-1, GIP, ghrelin, insulin, and glucagon were measured. Groups were compared using t-tests.

**RESULTS:** SG led to reduced food intake and weight loss. Baseline ghrelin level showed a trend of decrease (p=0.06). Portal and systemic levels of GIP were significantly higher compared to control (p<0.01) (Table).

Variable	Sleeve gastrectomy	Control	p Value
Weight increase, %, mean $\pm$ SD	36.6 $\pm$ 3.5	49.8 $\pm$ 2.0	<0.01
Daily food intake, g/day, mean $\pm$ SD	23.3 $\pm$ 0.4	25.9 $\pm$ 0.2	<0.01
Baseline systemic ghrelin, pg/mL, mean $\pm$ SD	28.3 $\pm$ 9.5	120.4 $\pm$ 49	0.06
Baseline systemic GIP, pg/mL, mean $\pm$ SD	38.8 $\pm$ 8	32.3 $\pm$ 7.6	NS
AUC for systemic GIP after glucose infusion, ng/mL x min, mean $\pm$ SD	15.3 $\pm$ 1.8	7.9 $\pm$ 1.3	<0.01
Baseline systemic GLP-1, pg/mL, mean $\pm$ SD	33.2 $\pm$ 12	20.0 $\pm$ 1.8	0.13
Baseline systemic insulin, pg/mL	731.7 $\pm$ 178.9	198.2 $\pm$ 48.6	<0.01

**CONCLUSIONS:** SG leads to increase in GIP, rather than GLP-1, secretion and an augmented insulin response to a glucose load. Further studies to evaluate the role of GIP in the anti-diabetic effects of SG are warranted.

### Laparoscopic Revision of Failed Bariatric Procedures: a Series of 271 Cases



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**INTRODUCTION:** The main indications for revision of bariatric surgery is inadequate weight loss, weight regain, or complications.

**METHODS:** Laparoscopic revision cases performed between 2001 and 2013 were identified and grouped according to the primary procedure and type of revision. A retrospective analysis was carried out for weight loss as well as perioperative morbidity and mortality.

**RESULTS:** A total of 271 patients underwent revisional laparoscopic surgery during the study period and were categorized into 4 groups. Group 1 (n=67) had an adjustable gastric band converted to gastric bypass (GBP). Group 2 (n=128) had a dilated gastric pouch after GBP and underwent pouch reduction. Group 3 (n=57) had a GBP and underwent pouch reduction and elongation of the biliopancreatic limb. Group 4 (n=19) had a vertical banded gastroplasty (VBG) converted to a GBP. The mean total body weight loss for groups 1-4 were 35.3%, 22.9%, 39.4%, and 33.2% respectively. The average operative times were 185, 75, 142, and 205 minutes. The average hospitalization was 1.5, 1.0, 2.0, 2.5 days. All cases were completed laparoscopically. Concomitant procedures were liver biopsy, partial gastrectomy, and hiatal, ventral, and internal hernia repairs. Complication rates were 2.9%, 0%, 3.5%, and 5.2% for each of the groups and there was no mortality.

**CONCLUSIONS:** Results of revisional bariatric surgery vary depending on the original procedure and the reasons for revision. In particular, if the main reason for re-operation is inadequate weight loss, then the burden is to demonstrate a surgically correctable deficiency. Revisional procedures incorporating malabsorption result in greater weight loss than gastric restriction alone.

### Laparoscopic Revisional Surgery after Myotomy for Treatment of Achalasia: A Single Institution Experience



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**INTRODUCTION:** Persistence or recurrent symptoms has been reported in up to 20% of patients who underwent Heller myotomy. The aim of this study is to evaluate the clinical characteristics and feasibility of laparoscopic revisional surgery (LRS) for recurrent achalasia.

**METHODS:** All the patients who underwent laparoscopic Heller myotomy between 2010 and 2015 were retrospectively reviewed. The data included patient's demographics, BMI, comorbidities, previous myotomy, type of LRS, reasons for the revisional procedure, and operative outcomes.