

## Cholecystectomy incidence after bariatric surgery: Comparing gastric bypass, gastric banding and sleeve gastrectomy

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**Introduction:** Rapid weight loss after bariatric surgery has been a factor of inducing gall stones post-operatively. Many reports have demonstrated increased gall stone formation after Roux-en-Y gastric bypass (RYGB). However, not many studies have compared symptomatic gall stone incidences between RYGB, laparoscopic sleeve gastrectomy (LSG) and laparoscopic adjustable gastric banding (LAGB). The aim of our study is to evaluate cholecystitis cases requiring cholecystectomy after each bariatric procedure.

**Methods and Procedures:** Between January 2008 and December 2010 a total of 840 patients underwent primary RYGB, 139 patients had LSG and 259 patients had LAGB at Bariatric and Laparoscopy Center. We have excluded patients with previous cholecystectomy or concomitant cholecystectomy at the time of index procedure. We also excluded patients who had converted to a different procedure and who were lost to follow up. A retrospective review of a prospectively collected database was performed for all RYGB, LSG and LAGB patients, noting the outcomes and complications of the procedure.

**Results:** Out of 469 RYGB patients, 5.5% (n=26) of patients had symptomatic gallstones. Out of 91 LSG patients, 5.5% (n=5) required cholecystectomy due to cholecystitis postoperatively. Out of 176 LAGB patients, 1.1% (n=2) developed cholecystitis. The differences in incidences of cholecystitis between RYGB and LSG were not statistically significant. However, statistical significance was present between RYGB and LAGB ( $p<0.02$ ) as well as between LSG and LAGB ( $p<0.04$ ). Mean percentage of excess weight loss (%EWL) was 61.1%, 50.8% and 28.3% at a mean follow up period of 18, 12, and 21 months in RYGB, LSG and LAGB patients, respectively. There was no complication related to the cholecystectomy procedure.

**Conclusion:** LAGB had the lowest incidences of developing cholecystitis post-operatively. However, LAGB patients showed significantly less %EWL when compared with patients of LSG and RYGB. We believe development of symptomatic gallstones is more related to the degree of weight loss than the procedure itself.