

## Laparoscopic Gastric Plication; Why we Stopped Doing it

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**Background:** Laparoscopic gastric plication (LGP) is one of the restrictive bariatric procedures. It seemed attractive to both morbidly obese patients and bariatric surgeons due to two main factors; safety and low cost. Moreover, many studies documented its efficacy in terms of weight loss and resolution of comorbidities. This study tests the mid-term outcome of LGP in morbidly obese patients.

**Patients and methods:** The data of morbidly obese patients who underwent LGP were analyzed. LGP was offered to obese patients with BMI > 40 kg/m<sup>2</sup> or > 35 kg/m<sup>2</sup> with one or more comorbidities. Superobese patients (BMI > 60 kg/m<sup>2</sup>) and those who have previous bariatric surgeries were excluded. The technique of LGP was standardized. After gastric mobilization the stomach was plicated in two rows of extramucosal non-absorbable sutures over 36 Fr calibrating tube. Perioperative and in-hospital data were recorded. Postoperative follow up visits was scheduled at 1, 3, 6, 12 months then annually. Patients were followed for complications, weight loss and resolution/improvement of comorbidities.

**Results:** Eighty eight consecutive morbidly obese patients had been operated by the standardized technique of LGP between March 2010 and September 2014. There were 19 men and 69 women, with a mean age of 24.2 years and a mean BMI of 38.7 kg/m<sup>2</sup> (range 35–51 kg/m<sup>2</sup>). Type 2 diabetes, hypertension, dyslipidemia, obstructive sleep apnea, and back pain were reported in 4, 10, 12, 4, 6 patients respectively. There were no significant intraoperative complications and no conversion to laparotomy. The most frequently reported complication was prolonged early postoperative nausea/vomiting and occurred in 5 of 88 (5.7 %) patients and were treated with conservative means. Early leak occurred in 3/88 (3.4%) patients and it was managed by conversion to laparoscopic sleeve gastrectomy (LSG) in two patients (one of them died of sepsis) and suture repair with undoing plication in the last patient. Postoperative follow-up period ranged from 6 to 42 months with a mean of 25 months. %EWL was 27.2 %, 35.0 %, and 41.1 % at 3, 6, and 12 months, respectively. Weight regain had been reported in 10 (11.4%) patients at a mean follow up period of 9.5 months. It was treated by laparoscopic replication (n=2), conversion to LSG (n=1), laparoscopic minigastric bypass (MGB) (n=1). One of replicated patients had inadequate weight loss and was converted to laparoscopic MGB. Resolution/improvement of comorbidities was documented in 5/36 (13.9%) patients only.

**Conclusions:** Inadequate weight loss, prolonged hospital stay, inadequate resolution/improvement of comorbidities plus risk of leak forced us to stop LGP. However, more studies on a larger number of patients with longer follow up is required.

**Key words:** Laparoscopic gastric plication, bariatric surgery, leak, weight regain, morbid obesity