

Laparoscopic Gastric Plication vs Laparoscopic Sleeve Gastrectomy - A Single Center, Prospective and Case-Control Study

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Abstract

Background and objectives: The laparoscopic gastric plication (LGP) is a restrictive bariatric procedure, still under investigation, considered to be an alternative to laparoscopic sleeve gastrectomy (LSG). The aim of the present study was to compare the outcome of LGP with the results of LSG.

Materials and Methods: The study was conducted on a total of 100 patients, from which 50 patients underwent LGP and other 50 patients had the LSG operation. To analyze the effectiveness of both procedures total weight loss (%TWL), change in body mass index (Δ BMI) and percentage of excess weight loss (%EWL) were measured and calculated for four distinct timelines: 6 months, 12 months, 24 months and 36 months after the procedure. Comorbidities were evaluated based on clinical and laboratory investigation.

Results: Starting from 6 months after surgery, weight reduction was statistically significant in favor of the LSG group, with the highest differences found after two and three years postoperatively ($p=0.0001$). No differences were found between the two procedures in terms of compliance or improvement of the main comorbidities.

Conclusions: As compared to LSG, LGP has similar outcomes in terms of the length of hospitalization, major complications and improvement of the main comorbidities. LSG procedure was found to be superior in terms of medium- to long-term weight reduction. LGP is a technique that may provide better results in obese patients with a lower BMI (less than 40 kg/m²).

Key words: laparoscopic gastric plication, laparoscopic gastric sleeve, bariatric surgery, body mass index, obesity, weight loss