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Long-Term Outcomes of Laparoscopic Sleeve Gastrectomy: A 9-Year Follow-Up Study

Abstract:

Introduction: Laparoscopic sleeve gastrectomy (LSG) is a widely used metabolic-bariatric surgical (MBS) technique, but long-term outcome data remain limited. This study aims to assess the 9-year progression of weight and related comorbidities following LSG.

Methodology: This retrospective study analyzed data from patients who underwent LSG in 2014, with consent to share data. Participants also completed an “ad hoc” questionnaire. Medical data and responses were analyzed using descriptive and inferential statistics.

Results: Of the 96 patients, 56 (23/33 males/females) agreed to participate in the follow-up (66.7%) and were assessed. The average initial weight was 119.7 ± 17.3 kg with a median of 117.0 kg (average BMI was 41.1 ± 3.48 kg/m² – median 40.5 kg/m²). Preoperatively, comorbidities included arterial hypertension (AHT) in 44.6%, dyslipidemia (DL) in 46.4%, sleep apnea syndrome (SAS) in 33.9%, type 2 diabetes (T2DM) in 21.4% and gastroesophageal reflux disease (GERD) in 53.6% of participants. Nadir BMI was assessed at year 3 (Y3) at a value of 28.2 ± 3.8 kg/m², corresponding to a $31.1 \pm 8.8\%$ total weight loss (TWL) – median 30.9%. Weight regains occurred post-Y3, with %TWL of $27.3 \pm 9.4\%$ at Y6 and $26.4 \pm 10.3\%$ at Y9. The regain between Y3-Y6, Y3-Y9 and Y6-Y9 is considered as being significant; excess weight loss (EWL) at Y9 was $68.0 \pm 25.8\%$. All comorbidities improved but GERD significantly increased to 75.0% at Y9 ($p=0.0110$). Emotional eating significantly impacted weight loss ($p=0.03829$).

Conclusion: LSG leads to significant long-term weight loss, although some weight regains starting at 3 years postoperatively. LSG also demonstrates lasting benefits for AHT, DL, SAS, and T2DM. However, GERD worsened overtime.

Keywords: Laparoscopic Sleeve Gastrectomy (LSG)

- Long-term Weight Loss
- Comorbidities
- Excess Weight Loss (EWL)

Gastroesophageal Reflux Disease (GERD)