

Long-Term Outcomes of Bariatric Surgery: 8 Years Study in Lebanon

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Abstract

Background

Obesity management presents a persistent challenge. Bariatric surgery, recognized for its transformative impact on weight loss and comorbidities, demands a thorough examination of its long-term implications.

Objectives

Our goal is to investigate different aspects of bariatric surgery, such as complications, comorbidities, infection rates, the long-term sustainability of weight loss, and factors predicting weight loss over an extended period following the procedure.

Methods

This study employs a longitudinal observational design with both retrospective and follow-up components to assess the long-term effects of bariatric surgery. Conducted at Saint George Hospital-Hadath, it includes a cohort of 100 patients who underwent primary bariatric surgery (gastric bypass or sleeve gastrectomy) between 2016 and 2023, with all procedures performed by a single surgeon. Institutional Review Board approval was obtained, and informed consent was secured via telephone. Inclusion criteria required patients to have undergone primary bariatric surgery within the specified timeframe, with no

age restrictions, provided they had accessible electronic medical records and were willing to participate in structured follow-up phone interviews. Exclusion criteria included patients who had revision bariatric surgery, incomplete or inaccessible medical records, prior major weight loss interventions or unrelated surgical procedures, and communication difficulties that would impede follow-up participation.

Results

Sleeve Gastrectomy was the most common procedure (93.0%), while Roux-en-Y Gastric Bypass was performed in 7.0% of cases. The study included participants with a mean age of 36.4 years (± 12.1) and a pre-surgery BMI of 44.5 kg/m² (± 7.5). Excess Weight Loss (%EWL) peaked at 75.09 % by the third year, while Total Weight Loss (%TWL) sustained at 33.41 % after two years. Among individuals with type 2 diabetes, medication discontinuation rates reached 26.3 % at 5 years. Hypertension medication use decreased steadily, with discontinuation rates reaching 26.3% at three and five years and 21% beyond five years. No leaks, a low rate of major complications, and no mortality were observed. Complications were minimal, with a single case of intra-abdominal bleeding managed conservatively and no reported instances of leaks, deep vein thrombosis (DVT), pulmonary embolism (PE), or mortality. Additionally, 3.5% of patients required cholecystectomy. In an extended 7-year follow-up, 40 % of patients experienced weight regain. Multivariate analyses identified age and preoperative BMI as negatively associated significant predictors impacting %EWL at three years, with standardized beta coefficients of -0.488 ($p = 0.001$) and -0.450 ($p < 0.001$), respectively. Conversely, smoking and Type 2 Diabetes Mellitus exhibited positive associations, with standardized beta coefficients of 0.336 ($p = 0.004$) and 0.286 ($p = 0.063$), respectively.

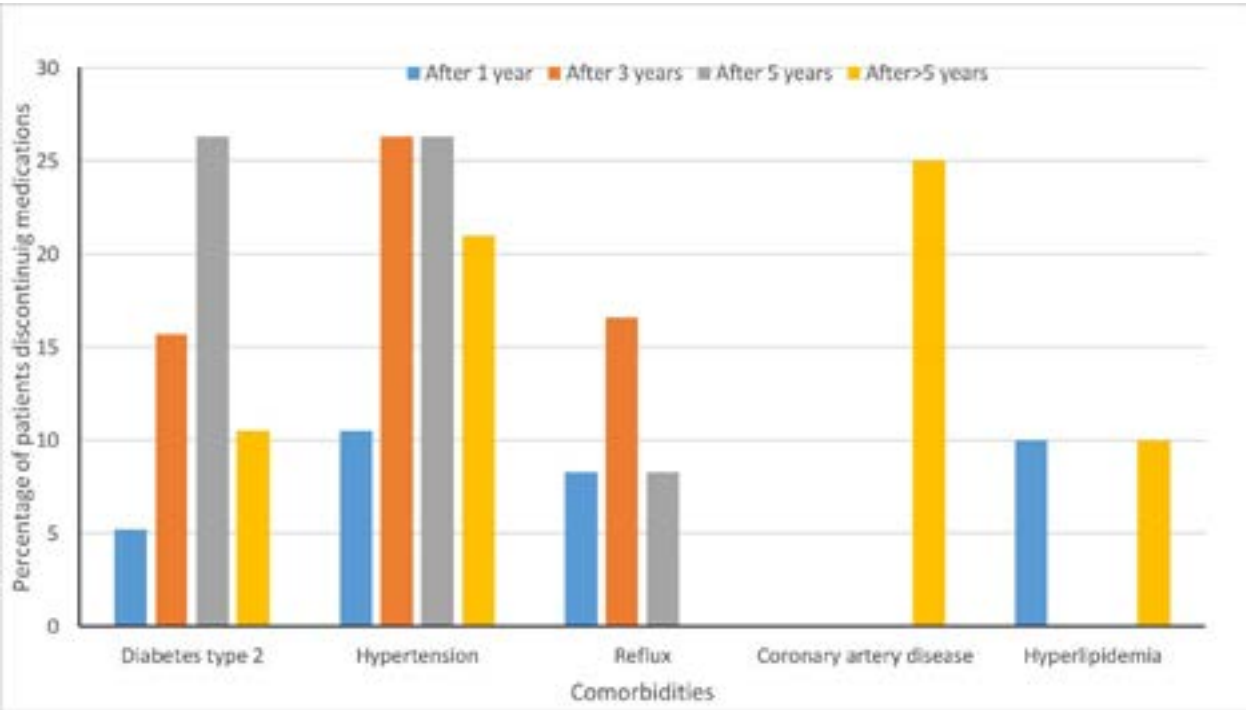
Discussion

This study provides an in-depth analysis of the demographic

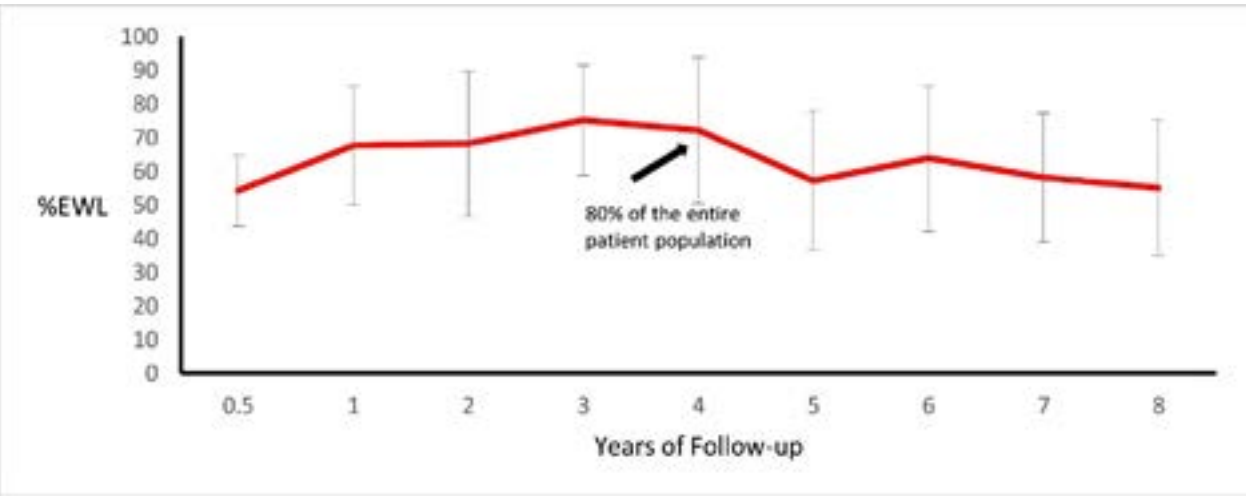
and clinical profiles of bariatric surgery patients, with a particular focus on the prevalence of Sleeve Gastrectomy, which is consistent with global trends regarding its safety and efficacy. Longitudinal weight loss outcomes align with established studies, demonstrating significant early weight loss followed by a gradual decline over time. The study also highlights the minimal incidence of complications, affirming the quality of surgical techniques and postoperative care protocols. Furthermore, the results demonstrate the influence of age and preoperative BMI

on long-term weight loss outcomes, emphasizing the importance of individualized preoperative counseling and tailored postoperative care strategies.

Bariatric surgery, especially sleeve gastrectomy, has shown effectiveness and safety, with a relatively low complication rate. Our findings are consistent with global data, indicating robust bariatric practices in our institutions. Additionally, factors such as age, preoperative BMI, smoking, and type 2 diabetes mellitus emerged as significant predictors of postoperative outcomes.



Medication discontinuation rates for different comorbidities after bariatric surgery over time.



The excess weight loss for the 8-year period of follow-up after bariatric surgery