



Five-Year Outcomes of Sleeve Gastrectomy in Patients with Class I Obesity and Type 2 Diabetes Mellitus

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Abstract

Background Several studies have reported short and medium-term outcomes of laparoscopic sleeve gastrectomy (LSG) in patients with class I obesity and type 2 diabetes mellitus (T2DM). However, literature on outcomes beyond three years is scarce. The present study discusses the 5-year results of a previously reported cohort of 20 patients with class I obesity and T2DM, who had undergone LSG between March 2012 and March 2015.

Materials and Methods Patients were followed up in the bariatric clinic at yearly intervals as per institute protocol. Primary outcome was proportion of patients with a glycated haemoglobin (HbA1c) level of 6.5% or less, 5 years after LSG. Secondary outcomes were percentage total weight loss (%TWL), excess weight loss (EWL), weight regain and complications.

Results Out of 20 patients, 9 (45%) were male and 11 (55%) were female. Mean age was 41.6 ± 9.5 years. Mean pre-operative weight and BMI were 94.8 ± 14.4 kg and 33.4 ± 1.2 kg/m², respectively. Median duration of diabetes was 42 months. Mean pre-operative fasting plasma glucose (FPG) and HbA1c were 171.1 ± 56.8 mg/dL and $8.7 \pm 1.6\%$, respectively. Of the 17 patients available for follow-up at 5 years, 9 (52.9%) achieved HbA1c < 6.5% without medication, while 7 (41.2%) patients had improvement of their glycaemic status. One patient had recurrence of diabetes after initial remission. Mean %TWL and %EWL were 18% and 65.1%, respectively.

Conclusion Laparoscopic sleeve gastrectomy is a reasonable option as a metabolic procedure for patients with T2DM and class I obesity.

Keywords Bariatric surgery · Metabolic surgery · Non-severe obesity · Long-term outcomes · T2DM

Key Points

- The positive impact of sleeve gastrectomy on glycaemic control in patients with class I obesity and type 2 diabetes is sustained at five years after surgery.
- Mean HbA1c decreased from 8.7% to 6.6% at five years after sleeve gastrectomy.
- More than 70% patients achieved HbA1c less than 6.5% at five years.
- More than half the patients were off anti-diabetic medication.
- All patients on insulin before surgery were off insulin at five years.

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Introduction

Metabolic and bariatric surgery (MBS) has been reported to be more effective than either standard or intensive medical treatment in patients with severe obesity and T2DM [1]. The impact of bariatric surgery on T2DM is impressive, with around 70–80% patients achieving remission or improvement [2]. This positive impact on diabetes can be seen in the early postoperative period,

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