



Original Research

Mid to long term outcomes of Laparoscopic Sleeve Gastrectomy in Indian population: 3–7 year results – A retrospective cohort study

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ARTICLE INFO

Keywords:

Bariatric surgery
Laparoscopic Sleeve Gastrectomy
Mid to long term results

ABSTRACT

Introduction: Few studies have addressed the mid to long term impact of Laparoscopic Sleeve Gastrectomy (LSG) on weight loss and obesity associated co-morbidities, particularly in Indian population. The aim of this study is to assess the efficacy of LSG in morbid obesity over 3–7 years follow up.

Materials and methods: Data of all patients who underwent LSG between January 2008 and March 2015 and completed their at least 1 year follow up till March 2016 was retrospectively reviewed using a prospectively collected database.

Results: 424 patients undergoing primary LSG were included. The mean age (\pm 2SD) was 39.8 \pm 22.5 years and the mean Body Mass Index (BMI) (\pm 2SD) was 46.67 \pm 15.8 kg/m². 124 patients (29.2%) were super-obese (BMI > 50 kg/m²). The percentage follow-up at 1 year, 3 years, 5 years and 7 years was 78.3%, 66.7%, 42.3% and 38.4% respectively. The mean percentage Excess weight Loss (%EWL) (\pm 2SD) at 1 year, 3 years, 5 years, and 7 years was 71.8 (\pm 50.5%), 64.95% (\pm 41.8%), 61.7% (\pm 46.2%) and 57.15% (\pm 50.2%) respectively. The preoperative BMI significantly correlated with %EWL at 5 year ($r^2 = 0.107$, $p = 0.018$). The overall complication rate was 5.8%. Early complications included staple line leak (1.2%), bleeding (1.2%), deep venous thrombosis (0.4%) and 30-day mortality (0.21%). Late complications included stricture formation (0.21%) and new onset Gastro-esophageal Reflux Disease (GERD) (2.8%). At 5 years, 83.3% of diabetic patients showed remission while rest showed improvement in glycemic control with decrease in dosage. 69.3% patients showed improvement in hypertension, 100% patients showed improvement in Obstructive Sleep Apnea Syndrome, 75% patients showed improvement in hypothyroidism after surgery. GERD resolved in 62.8% patients while worsened in 11.4% patients.

Conclusions: LSG has durable weight loss at 5 year with %EWL of 61% and significant resolution of obesity associated co-morbidities.

1. Introduction

Laparoscopic Sleeve Gastrectomy (LSG) was introduced as a first step procedure to minimize surgical risk in high risk patients followed by either Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) or Bilio-Pancreatic Diversion with Duodenal Switch (BPD-DS) [1]. With increasing experience, LSG has been able to carve out its own niche in management of morbid obesity and its associated co-morbidities [2]. It is becoming the most popular bariatric procedure worldwide. Global trends from 2003 to 2011 indicate a decrease in LRYGB, BPD-DS and Adjustable Gastric Banding (AGB) and a marked increase in LSG [3].

The popularity of the procedure may be due to technical ease coupled with good results. Short and mid-term results have shown consistent efficacy of the procedure [4]. However, results regarding its mid to long term efficacy on weight loss and co-morbidities are still scarce, particularly from Asian population [5–7].

This study is among the first few studies in Asian and particularly Indian population, to assess long term efficacy of LSG on obesity and its associated co-morbidities over 3 to 7- year follow-up.

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<https://doi.org/10.1016/j.ijisu.2017.10.076>

Received 19 June 2017; Received in revised form 30 October 2017; Accepted 31 October 2017

Available online 06 November 2017

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