

Prospective

Effectiveness and Safety of Sleeve Gastrectomy in Elderly Patients above 60 Years

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Abstract

Background: As the obesity is pandemic, the requisite for bariatric treatment and novel interventions has surged substantially. Among various bariatric strategies to cope with the obesity challenge, sleeve gastrectomy has proved to be the most effective.

Aim: To evaluate the effectiveness and safety of sleeve gastrectomy for weight loss in morbidly obese elderly Saudi patients (60 years).

Methodology: A prospective cohort study on 205 patients undergoing Laparoscopic Sleeve Gastrectomy (LSG) was carried out from January 2013 to August 2016, with a follow up time of 6 months and then 1 year. The study included patients of >60 years of age who have a Body Mass Index (BMI) of >40 kg/m². The primary objective of this study includes the percent Excess Weight Loss (%EWL), Length of Stay (LOS), 30-days and 1-year mortality and morbidity rates.

Results: The mean age of patients was 65 years, of which 60% were females. The Mean weight before the surgery was 120 Kg with a pre-operative BMI of 44 kg/m². Patients underwent vertical sleeve gastrectomy laparoscopically with a mean LOS of 2 days. Follow-up was performed twice, within 6 months and then 1 year after the operation, which showed statistically significant reduction in the average weight and BMI (P-value= <0.001). Percent EWL was 48% and 59% at the 6 and 12 months follow ups, respectively. In all patients, the 30-days and 1-year mortality and morbidity rate was 0%.

Conclusion: laparoscopic sleeve gastrectomy is effective and safe surgery for significant %EWL in morbidly obese elderly patients in Saudi Arabia.

Keywords: Bariatric; Sexagenarian; Sleeve-Gastrectomy; Weight-Loss

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Abbreviations

- Laparoscopic Sleeve Gastrectomy (LSG)
- Body Mass Index (BMI)
- Percent Excess Weight loss (%EWL)
- Length of Stay (LOS)

Introduction

Obesity which is currently affecting more than 600 million adults worldwide is a big challenge of contemporary times. Obesity is a multifactorial metabolic disorder which is characterized by BMI >30 kg/m² [1]. Challenges presented by obesity in aged subjects are different from those in other age groups owing to associated intricate pattern of comorbidities. Changes encountered by body during ageing such as Lean Body Mass (LBM), frailty, high fat content, when accompanied by obesity leads to functional deterioration and comorbidities [2]. Although adverse consequences of obesity such as diabetes, cardiovascular diseases, depression and even malignancies [3] are observed in all age groups, elderly patients are more prone to these disorders mainly because of frailty.

With obesity pandemic the requisite for bariatric treatment and novel interventions has surged substantially. Amongst various bariatric strategies to cope with the obesity challenge, bariatric surgery has proved to be the most effective [4]. Gastric bypass, gastric band, gastric sleeves, gastric balloons and bilio-pancreatic diversion with duodenal switch are the usual options in bariatric surgery. Gastric Sleeve surgery also known as sleeve gastrectomy was first presented as part of bilio-pancreatic diversion but currently it has become an attractive stand-alone procedure and has replaced gastric bypass and gastric banding in several hospitals around the globe [5].

Gastric sleeve works on the principle of restricting total area used for energy intake producing a feeling of satiety by removing ghrelin-producing stomach spot [6,7]. It has become a preferred choice due to excessive weight loss, being a simple procedure, and having few complications [8]. Laparoscopic Sleeve Gastrectomy involves a longitudinal resection of the stomach on the greater curvature from the antrum. The procedure consists of two key steps: division of the vascular supply of the greater curvature of the stomach, achieved with the dissection section of the gastro-colic and gastro-splenic ligaments, and longitudinal gastrectomy that “sleeves” the stomach to reduce it to a tube. Gastric sleeve had been carried out on obese patients and resulted in excessive weight loss in various studies; yet the literature was meager in reporting its effectiveness for elderly obese patients [9-11].

Methodology

Patients' selection

Patients included were >60 years of age and having a BMI of >40 kg/m² from January 2013 to August 2016. Patients were followed up within 6 months and then 1 year later, and percent Excess Weight Loss (%EWL), Length of Stay (LOS), 30-day and 1-year mortality and morbidity rates were recorded.

Intervention and followup

Laparoscopic sleeve gastrectomy performed with five ports and 3 to 4 linear staplers were used to transect the stomach after dissecting all greater omentum. A precise calibration was obtained by using gastric tube a leak-test with methylene blue was used to demonstrate the integrity of the gastric tube. Postoperatively all Patients were admitted overnight and liquid diet was started and patients were discharged with an average LOS of 2 days depending on their ability to tolerate enough oral liquid to keep themselves hydrated and the adequacy of their pain control. Patients were asked to continue a clear liquid diet for 2-3 days and were then advanced to a full liquid diet for 2-3 weeks. At 3 weeks, they were advised to take a pureed diet and then textures are gradually increased during the ensuing weeks. Follow-up planned as 1, 3, 6, and 12 months, where recordings were made for primary outcome at 6 and 12 months.

Statistical analysis

Analysis was carried out using SPSS® v24 (IBM SPSS Statistics, New York, US) where data was computed for weight and BMI difference before and after the procedure. No attempt was made at data imputation.

Results

The average age of patients in this study was 65 years with 60% females (n = 123). The average weight before surgery was 120 Kg with a pre-operative BMI of 44 kg/m². Patients underwent vertical sleeve gastrectomy laparoscopically with an average LOS of 2 days. Follow-up was performed within 6 months and at 1 year, which showed statistically significant reduction in the average weight and BMI (P-value= <0.001). Percent EWL was 48% and 59% on follow up of 6 and 12 months respectively. In all patients, the 30-day and 1-year mortality and morbidity rate was 0%. Results were summarized in table 1.

Variables	Results
Total number of patients	N= 205
Gender	60% Female 40% male
Age	60 years
Mean pre-operative Weight	120 kg
Mean pre-operative BMI ¹	44 kg/m ²
Mean %EWL ² at 6 months	48%
Mean %EWL at 12 months	59%
LOS ³	2 days
6 & 12 months Mortality	0%

Table 1: Summary of the results.

¹Body Mass Index (BMI); ²Percent Excess Weight Loss (%EWL); ³Length of Stay (LOS).

Conclusion

This study showed promising %EWL post Laparoscopic Sleeve Gastrectomy for elderly patients, accompanied with no post-op morbidity or mortality after one year which demonstrated efficacy and safety of weight loss surgery as a treatment for morbid obesity in patient's ≥60 years of age. This study shows comparable complication and mortality rate results to studies examining weight-loss surgery in

younger patients, which might be attributed to thorough preoperative evaluation in this traditionally higher-risk cohort. Age should not be a barrier for patients who desire weight-loss surgery. Long-term follow up studies will enhance our knowledge in terms of improvement in associated comorbidities.

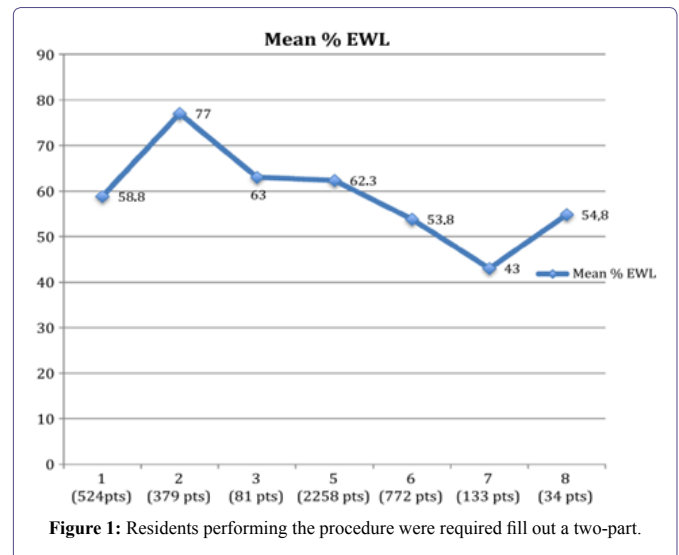


Figure 1: Residents performing the procedure were required fill out a two-part.

Conflicting Interests

None declared.

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