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LAPAROSCOPIC SLEEVE GASTRECTOMY IN SUPER-MORBIDLY OBESE

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ABSTRACT

Introduction: Super-morbid obesity is defined as BMI (Body Mass Index) of more than 50 kg/m^2. Conventionally bypass bariatric procedures have been advocated for super-morbid obese patients. We studied effects of Laparoscopic Sleeve Gastrectomy on these patients. **Material and Methods:** 59 Super-morbidly-obese patients who underwent Laparoscopic Sleeve Gastrectomy between May 2008 and April 2012 were followed up till 2018. Their data was entered into a prospective data base, and retrospective evaluation of the data base was carried out for various parameters. **Results:** Mean follow up was 73.2 months. Mean age of patients was 46.5 years. Mean BMI was 59.4 kg/m$^{2.}$ The mean BMI of these patients at 73.2 months was 32.17 kg/m^2. The % EBWL (Excess Body Weight Loss) at 73.2 months was 61.1%. The % EBWL ranged from 40.7% to 103.6%. The remission rates for diabetes was 90%, for Hypertension was 87% & OSA (Obstructive Sleep Apnea) was 85.5%. **Conclusion:** Laparoscopic Sleeve Gastrectomy can be safely considered a standalone bariatric procedure for super-morbidly obese patients with good EBWL and remission of co-morbidities.

KEYWORDS: Super-morbidly obese, BMI (Body Mass Index), EBWL (Excess Body Weight Loss). LSG (Laparoscopic Sleeve Gastrectomy).

INTRODUCTION

Laparoscopic sleeve gastrectomy has become the go-to procedure for most bariatric surgeons in recent days. However, it's utility in the super-morbidly-obese population (BMI of more than 50 kg/m^2) remains debatable. Laparoscopic sleeve gastrectomy has been questioned more and more in the Indian subcontinent about the longevity of its weight loss & it's effect on the comorbidities. It is most probably because of this fear that there is an increasing reliance on bypass procedures.[1] We followed up 59 super-morbidly-obese patients who underwent Laparoscopic Sleeve Gastrectomy between May 2008 and April 2012, till 2018. The analysis of data shows that Laparoscopic Sleeve Gastrectomy is an effective standalone procedure for super-morbidly-obese patients in terms of good EBWL (Excess Body Weight Loss) and remission of co-morbidities like Hypertension, Diabetes and Obstructive Sleep Apnea.

MATERIAL AND METHODS

The surgical bariatric procedures available, their possible complications and expected results were explained to all super-morbidly obese patients who presented to us. Informed consent was taken from the patients who opted for Laparoscopic Sleeve Gastrectomy.

Surgery was performed laparoscopically. A 36 Fr gastric calibration tube was used to calibrate the sleeve size. Complete mobilization of the fundus was done with visualization of left crus. Fat pad was mobilized to visualize the Gastro-esophageal junction. A buttress material was used in all these patients. Gastric sleeve was created 2 cm proximal to the pylorus.

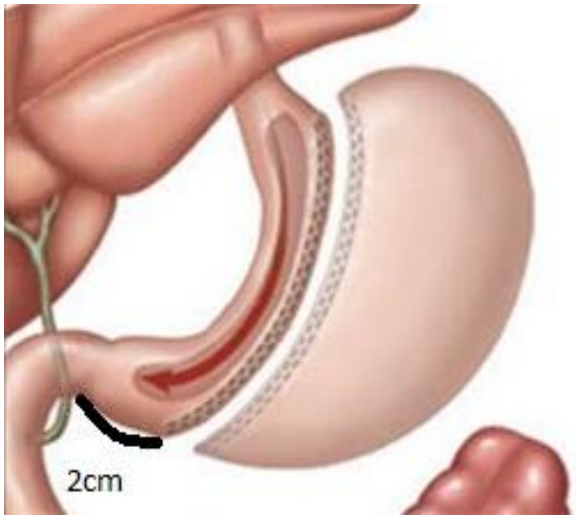

Fig 1: Gastric Sleeve being created 2cms proximal to Pylorus.

Patients were followed up till December 2018. Their data was entered into a prospective data base, and a retrospective evaluation of the data base was done for %EBWL, Resolution of Diabetes, Hypertension and OSA. No patient was lost to follow up.

RESULTS AND DISCUSSION

Age of patients ranged from 17 to 72 years, with a mean age of 46.5 years.

The BMI ranged from 50.7 to 78.39 kg/m^2 with a mean of 59.4 kg/m^2

Mean follow up period was 73.2 months.

There was a male preponderance, with males consisting of 62.7% of the total cases.

The mean pre-op BMI of the patients was 59.4 kg/m^2 and the mean BMI of these patients at 73.2 months was 32.17 kg/m^2.

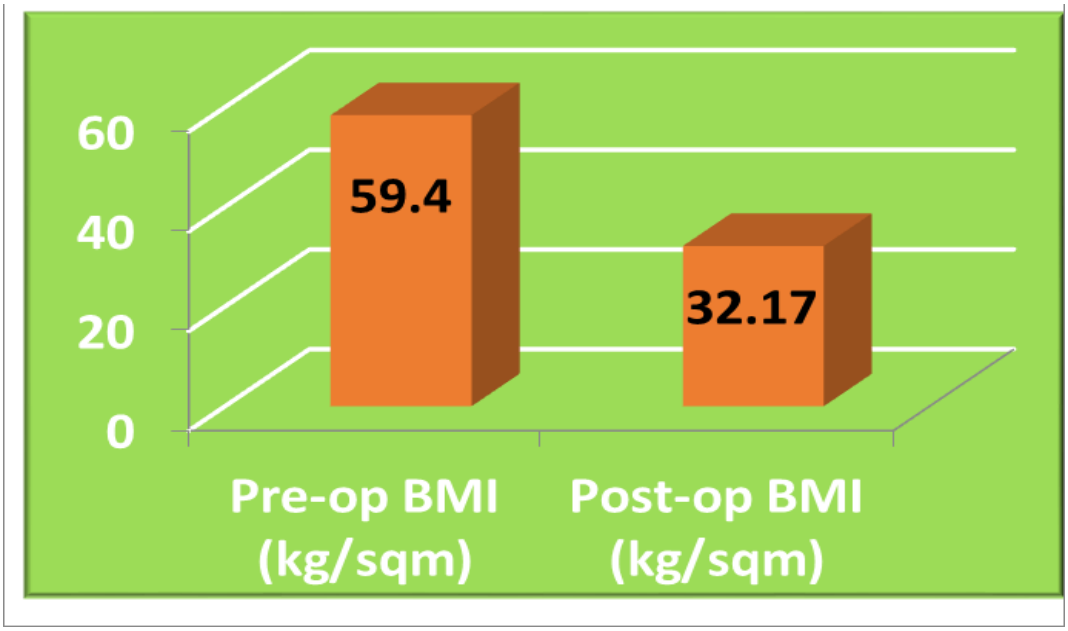

Table 1: Pre operative BMI and BMI at 73.2 months.

The %EBWL at 6 months was 56.6% and at 18 months was 82.6%. The %EBWL at 73.2 months was 61.1%. The %EBWL ranged from 40.7% to 103.6%, which can be considered as a good result.

The remission rates for diabetes stood at 90%, for hypertension at 87% and OSA at 85.5%.

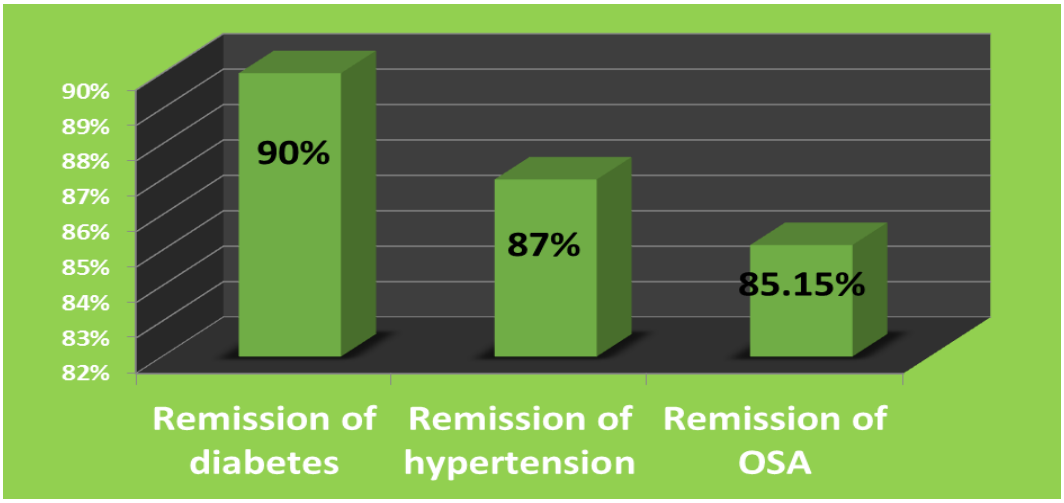

Table 2: Remission of Co-Morbidities.

Of total cases, one was a revision from Laparoscopic banding to Sleeve gastrectomy. None of the patients opted for a second surgery.

There was one staple line leak, who presented on the 6th post-op day. It was managed by laparoscopic drainage and feeding jejunostomy. One patient developed DVT, despite LMWH for 4 weeks and DVT stockings. Transient hair loss was seen in almost all patients. None of the patients required nutritional supplements at the end of the follow-up period.

This study shows that Laparoscopic Sleeve Gastrectomy as a standalone procedure for super-morbidly obese patients has come a long way from being compared to Laparoscopic Adjustable Gastric Banding[1] in terms of %EBWL to being a viable option.

There was initially doubts regarding effectiveness of this procedure. A study from France published in 2012 where LSG was performed in 30 super-obese patients, 20% patients had insufficient weight loss.[2] In the same study, 5 of the 30 patients underwent a 2nd stage surgery within 2 years of the primary surgery.[2] If we review the recent literature, the balance still seems to be tilted in favor of gastric bypass. In a RCT (Randomized Controlled Trial) published in 2014 comparing gastric bypass & LSG, it was found that EBWL at 12 months was only 44% in LSG whereas it was 64% for the bypass group.[3]

However, the mid-term results have shown encouraging signs. At 73 months, the EBWL was found to be 48% with a remission rate of 70% for diabetes, in a study of 69 patients with a follow up of 6-8 years.[4] In fact, a study showed single port LSG shows EBWL close to 70% at follow up of more than 1 year.[5]

Taking these studies and results of present study into account we can say that Laparoscopic Sleeve Gastrectomy in Super-obese population is a definite bariatric surgery option.

CONCLUSION

Laparoscopic Sleeve Gastrectomy is simpler of all bariatric procedures with a lesser learning curve. It is also more physiological compared to other bypass procedures. In super-morbidly obese patients with several co-morbidities it's role is still debatable. This and several recent studies have shown encouraging results which make Laparoscopic Sleeve Gastrectomy a definite candidate for a standalone procedure of choice in super-morbidly obese patients.

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