

Early Outcomes of Laparoscopic Sleeve Gastrectomy in Iranian Patients with Morbid Obesity

Abdollah Zandi, M.D.

Fellowship of bariatric surgery, Atiyeh Hospital, Tehran, Iran
zandi2@hotmail.com

Naseh Yusefi, M.D.

Iran university of Medical Sciences, Tehran, Iran
nasehusefi@gmail.com

Mahdi Safdarian

Medical student, Iran university of Medical Sciences, Tehran, Iran
mahdisafdarian@gmail.com

Katayoun Moradi

Medical student, Iran university of Medical Sciences, Tehran, Iran
katayoun_moradi@yahoo.com

Morteza Khatibian, M.D.

Gastroenterologist
khatib@ams.ac.ir

Esmat Heydari, M.D.

General surgeon, Atiyeh Hospital, Tehran, Iran
dr.esmatheydari@gmail.com

Abstract:

Purpose: To evaluate the short-term outcomes of LSG (Laparoscopic Sleeve Gastrectomy) as a strategy for excess weight loss.

Materials and methods: Information including age, sex, body mass index (BMI), the type of surgery, length of hospital stay and the amount of excess weight loss in two, six and twelve months after surgery collected from patients who were candidates for bariatric surgery in our clinic from April 2010.

Results: 74 patients underwent LSG bariatric surgery. Sixty patients (81%) were female and 14 patients (19%) were male. The mean age was 26 ± 8 in men and 33 ± 7.5 in women. The mean of BMI before surgery was 39 ± 3.5 in women, 41 ± 4.7 in men and 40 ± 3 kg/m² in all patients. average hospital stay was 2.5 ± 0.5 days. The average of excess weight loss in two, six and twelve months follow up after surgery were 14 ± 2.8 , 22 ± 4.4 and 30 ± 4 Kg which were 25%, 35%, 42% of the overweight, respectively.

Conclusion: LSG can be considered as a safe procedure resulted in an average loss of 25% of excess weight in a two-month period after surgery with a low complication rate comparing with other bariatric surgery procedures

Keywords: Laparoscopic Sleeve Gastrectomy; bariatric surgery; obesity; excess weight loss

1. INTRODUCTION

Obesity is now a major concern in adult and children health that imposes many costs and problems to the society. This problem becomes more considerable when despite extensive and sometimes aggressive approaches to reduce the excess weight, only a small percent of patients gain the optimal weight (1). Recently the desire to perform surgeries in the field of bariatric surgery has been increased a lot (2). Since the mortality and morbidity after bariatric surgeries are relatively high (3) and from the other hand Food and Drug Administration (FDA) has not approved the Laparoscopic Adjustable

Gastric Banding (LAGB) surgery for the patients aged less than 18 years (4), we decided to examine LSG as a surgical procedure for weight loss in our morbid obesity patients. In this study, we assumed LSG as a safe and short-term effective operation.

2. MATERIALS AND METHODS

The data were collected from all patients undergoing LSG surgery from April 2010 prospectively. All surgeries were done by the first author (A.Z.) and colleagues at the Atiyeh hospital of the Tehran city. All patients in this study were in the age group above 18 years and their information including age, sex and BMI were collected before surgery. LSG surgery was done according to standard techniques using F32 bougie and (5). The patients were discharged after receiving oral nutrition and post-surgical care. The pain was controlled and the diet containing fluids in the first 6 weeks after surgery and gradually increase the consistency of the food during the 8 months advised for the patients. The patients were also advised to come to the clinic two weeks and two months after surgery for follow-up evaluation of weight loss, appetite, dysphagia or food intolerance, changes in eating habits and the incidence of complications after surgery. We also followed the weight loss of patients, six and twelve months postoperation.

All procedures were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

3. RESULTS

Between April 2010 to April 2013, seventy-four patients received this surgical procedure with the mean age of 39 ± 3.5 years who underwent LSG in the obesity management clinic at the Atiyeh hospital.

The demographic data of the patients is shown in the table 1.

Table1. The demographic data of the patients undergoing the Sleeve bariatric surgery

Gender	Number of patients	The Mean age	BMI before surgery
Male	60	33 ± 7.5	39 ± 3.5
Female	14	26 ± 8	41 ± 4.7
Total	74	29 ± 10	40 ± 3

This study was including 60 women and 14 men who were all Caucasian with the average weight of 127 ± 22 kg and the average BMI of 40 ± 3 . All surgeries were laparoscopic and the mean duration of hospital stay was 2.5 ± 0.5 days. No major complication was reported during six months of our follow up. The average of excess weight loss (EWL) in two months after surgery was 25%. However the number of our cases in six and twelve-month follow up was 54 and 16, their EWL were 35% and 42% respectively (Table 2).

Table2. The rate of weight loss at 2, 6 and 12 months follow up

Time	Number of cases	Excess weight loss (EWL)%
preoperative	74	----
2 Months	74	25%
6 Months	54	35%
12 Months	16	42%

4. DISCUSSION AND CONCLUSION

Obesity is becoming an epidemic in all age groups. Recent Information shows that the risk of cardiovascular disease, type 2 diabetes, hyperlipidemia and atherosclerosis of the carotid artery increases dramatically in the obese children who enter the adulthood with the obesity; while this risk reduces if these children not remain obese in adulthood (6). It seems therefore imperative that not only should we prevent children from becoming obese, but also treatment of the children with this disorder is now offered (7). There is not a certain consensus because despite the various programs in achieving weight loss, there is still no definitive solution to gain optimal weight in patients with morbid obesity (8). So the attention to achieve significant and sustainable weight loss has been focused on surgical procedures (8). At the beginning, the attention was on laparoscopic RYGB (Roux-en-y gastric bypass)

which was the primary surgical treatment of morbid obesity (9) but the morbidity and mortality of RYGB surgery has been shown to be more than other surgical procedures specially LAGB (10). Low complication allows us to use LAGB as a primary method with excellent results in the short-time use (11). In spite of reports on the effectiveness of LAGB in adults in the United States and lasting effects of this procedure in other parts of the world, FDA has not yet approved this procedure for people below 18 years. On this basis, we set out to do LSG as a primary non-device option in the treatment of adults with morbid obesity and recently as an effective way to reduce weight with fewer complications in comparison with RYGB (12). Furthermore, in a study conducted in Germany, LSG is supported as a method of treating morbid obesity in children (13).

Another independent factor affecting the low rate of weight loss is morbid obesity (BMI > 50 kg/m²) (15). So this fact is proposed that initial BMI is a predictor of BMI after surgery.

Despite the emphasis on weight loss in bariatric surgery, reducing and even cure of comorbidities associated with obesity is an issue that affects the success rate of the surgery. In clinical practice, assessment and judgment about the risk of invasive surgical procedures should be considered by the medical team, in comparison with the treatment of the underlying problems and other comorbidities. Speaking from our experiences about the safety of LSG, intraoperative complications or change to laparotomy was not seen in any of our patients in this study.

Although there was no accurate statistics on the extent of comorbidity in our study, but many patients with the complaints of insulin resistance, obstructive sleep apnea (OSA) and type 2 diabetes reported a better response to insulin and improvement of sleep quality two months after the operation. Thus, it seems that a reduction of 25% of overweight in two months appears to be sufficient in order to reduce and even treat the underlying problems associated with obesity.

In conclusion, LSG is not only a safe method for managing the patients with morbid obesity, but also an effective treatment strategy to reduce about 25% of overweight at a two-month follow-up. However, our results may not be extensible to the entire population because our study was all done in Iranian patients and it constituted a limited range of ages. As a result, cohort studies with long-term follow-up and more sample size appears to be more necessary. In addition, LSG is effective for the treatment of obesity-associated comorbidities. We suggest LSG as a non-device surgical option for treating obesity in adults with morbid obesity in comparison to RYGB, and we do recommend for further studies to clear the safety and efficacy of this approach.

Conflict of Interest

The authors declare that they have no conflict of interest.

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