

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-asianjournalsurgery.com

ORIGINAL ARTICLE

Long-term outcome of laparoscopic sleeve gastrectomy from a single center in mainland China

Pankaj Kumar Hans, Wei Guan, Shibo Lin, Hui Liang*

Department of General Surgery, The First Affiliated Hospital of Nanjing Medical University, Nanjing, Jiangsu Province, China

Received 30 November 2016; received in revised form 30 March 2017; accepted 17 April 2017

KEYWORDS

Five year outcomes;
Laparoscopic sleeve
gastrectomy;
Long term outcomes;
No major
complications;
Weight regain

Summary *Background/Objective:* Laparoscopic sleeve gastrectomy (LSG) is at present the most popular bariatric procedure due to its significant weight loss, remission of co-morbidities, and acceptable morbidity. But, there are not many studies showing its long term efficacy and safety in Chinese patients. The aim of this study is to give five results of LSG in terms of weight loss, co-morbidity (Type 2 diabetes mellitus) resolution and possible complications from a single center in mainland China.

Material and methods: This is a retrospective study of 218 obese patients who underwent LSG by a single surgeon from June 2011 to June 2016. Patients were subjected to standardized peri-operative evaluation and education program. Patients were followed up after 1, 3, 6, 12, 18, and 24 months and yearly thereafter. Long term outcomes in terms of weight loss in kg, % of total weight loss (%TWL), % excess weight loss (%EWL), % resolution of type 2 diabetes mellitus (T2DM) and % complication rate are studied.

Results: The %TWL was 33.8 ± 5.9 , 28.8 ± 8.9 , 26.6 ± 6.9 , 18.0 ± 7.6 , 15.0 ± 7.1 and %EWL was 62.8 ± 16.9 (n-96), 49.5 ± 18.5 (n-43), 39.8 ± 13.1 (n-15), 32.2 ± 2.1 (n-13), 19.5 ± 8.7 (n-2) at 1, 2, 3, 4 and 5 years, respectively. T2DM remission rate was 72.9% at one year. There were no major complications like leak, stricture, staple line bleeding, port site herniation and gastro-esophageal reflux disease (GERD). There was no mortality. Most common early complication was port site dehiscence (10%), managed conservatively; none requiring readmission. No reoperation was done for weight regain.

* Corresponding author. Department of General surgery, The First Affiliated Hospital of Nanjing Medical University, 300 Guangzhou Road, Nanjing, Jiangsu Province, 210029, China.

E-mail address: drhuiliang@126.com (H. Liang).

<http://dx.doi.org/10.1016/j.asjsur.2017.04.003>

1015-9584/© 2017 Asian Surgical Association and Taiwan Robotic Surgical Association. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article in press as: Hans PK, et al., Long-term outcome of laparoscopic sleeve gastrectomy from a single center in mainland China, Asian Journal of Surgery (2017), <http://dx.doi.org/10.1016/j.asjsur.2017.04.003>

Conclusion: LSG is a safe and effective procedure with good five year results. Weight regain remains a concern two years post surgery. Standardization of LSG is important to reduce major complications.

© 2017 Asian Surgical Association and Taiwan Robotic Surgical Association. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Laparoscopic sleeve gastrectomy (LSG) as a stand-alone procedure has been reported since 2004.¹ In 2009, the American Society for Metabolic and Bariatric Surgery (ASMBS) endorsed LSG as a potential first stage procedure for high-risk morbidly obese patients,² and in updated version of ASMBS in 2012, LSG was considered as an acceptable option as a primary bariatric procedure.³ With a good long-term weight loss and acceptable morbidity, compared with laparoscopic Roux-en-y bypass (LRYGB) or adjustable gastric banding (AGB), LSG has emerged as a popular operation for treatment of morbid obesity.^{4–6}

Its attractiveness is attributed not only to its significant weight loss outcome, but also to significant improvement or remission of co-morbidities. LSG when compared with LRYGB and BPD, preserves gastrointestinal anatomy, which results in low surgical morbidity and less nutritional deficiencies.^{7,8} However, as with any other surgical procedure, it has a potential for complications that range from 0.7 to 4% in different series.^{9,10} Some of the complications like staple line leak, bleeding, sleeve obstruction and de-novo gastroesophageal reflux disease (GERD) have raised concerns about the safety of this procedure.

In China, LSG was introduced in 2006, but till 2011 its status remained dormant because of the doubts regarding its efficacy as a standalone bariatric procedure and only in the last few years it has gained a wide application among bariatric surgeons in China. There are very few studies that report the long term efficacy and safety of this procedure in Chinese population. The aim of this paper is to report five year outcome of weight loss, complications and short term type 2 diabetes mellitus (T2DM) remission at a single center in mainland China.

2. Material and methods

This is a retrospective analysis of patients, who underwent LSG from June 2011 to June 2016 by a single surgeon at Department of Bariatric and Metabolic Surgery, First affiliated hospital with Nanjing Medical University, Nanjing, China.

2.1. Selection criteria

Patients were eligible for sleeve gastrectomy if one of the following criteria were met: BMI > 32.5 kg/m² with or without T2DM; BMI > 27.5 kg/m² with associated T2DM but failed medical management and combined with at least two metabolic diseases or co-morbidities. Meanwhile, the following criteria were also required: Duration of T2DM ≤ 15 years with fasting C-peptide ≥ 50% of normal limit for

patients with T2DM; Waist circumference: male ≥ 90 cm, female ≥ 85 cm; Age within 16–65 years.¹¹ LSG was also deemed suitable for patients with severe gastritis or *Helicobacter pylori* infection, gastric ulcer, family history of gastric cancer, history of inflammatory bowel disease, history of smoking, prior intestinal or colon surgery and obese patients with Child's A or B liver cirrhosis.

2.2. Exclusion criteria: Barrett's esophagus, and history of GERD

All patients underwent preoperative multidisciplinary workup including counseling by dietician, endocrinologist and anesthetist, gastrointestinal endoscopy, routine laboratory investigations, electrocardiogram, ultra sonogram (USG) abdomen, and pulmonary function studies along with medical evaluation. A psychological screening was included, if required. After a one-on-one consultation with the surgeon, the patients made an informed decision to have LSG.

2.3. Surgical technique

Patient is placed in supine position with arms extended and abducted and surgeon stands on the right side. We use five port techniques. Special attention is paid to identify left crus of diaphragm and to completely release the fundus posteriorly by carefully dissecting all the short gastric vessels.

Gastric transection is started at a point 2 cm proximal to the pylorus to make a narrow gastric sleeve against a 36 Fr gastric calibration tube (bougie). For the first two staple fires (Echelon Flex, Ethicon Endo- Surgery®) we always use green loads (Ethicon) and then blue loads for further stapling. The stapler is fired consecutively along the length of bougie until the angle of His, where we keep a distance of approximately 1 cm from the gastroesophageal junction. We always inspect the stomach posteriorly before firing stapler, to ensure no redundant posterior gastric wall. Special attention is paid to the incisura angularis, so as not to make it narrow. Staple line is inspected for bleeding, and hemostasis is achieved using monopolar cautery hook by 'touch and go' technique. Any larger bleeding point is taken care by sealing its source vessel with energy device or by taking figure of eight suture. In all cases, we reinforce the entire staple line by applying running continuous transmural sutures (3-0, absorbable). Approximately at the level of upper 2/3rd and lower 1/3rd of the newly formed gastric sleeve, we used to take one or two stabilizing sutures to prevent the sleeve from kinking and twisting. We routinely do not perform leak test. Drain is usually not put until there is more than expected blood loss. A nasogastric tube (NG) was used to decompress the stomach, but now it is no

Download English Version:

<https://daneshyari.com/en/article/8831024>

Download Persian Version:

<https://daneshyari.com/article/8831024>

[Daneshyari.com](https://daneshyari.com)