Lower oesophageal peptic stricture after laparoscopic sleeve gastrectomy: World's first case report

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Abstract

Laparoscopic sleeve gastrectomy (LSG) is the most commonly performed bariatric surgery worldwide. De novo gastro-oesophageal reflux disease after LSG has been reported in the range of 0%-34.9%. Benign lower oesophageal peptic stricture is rare and has not been reported till date. We present the first case report of benign oesophageal peptic stricture post-sleeve gastrectomy and its management. The management modalities for peptic stricture post-LSG include proton pump inhibitors, endoscopic dilatation and surgical management. RevisiOnal Roux-en-Y gastric bypass along with optimal usage of serial dilatation and medical treatment has been shown to be an effective treatment for the same.

Keywords: Benign oesophageal stricture, de novo gastro-oesophageal reflux disease, laparoscopic sleeve gastrectomy, revisional Roux-en-Y gastric bypass

INTRODUCTION

Laparoscopic sleeve gastrectomy (LSG) is the most common bariatric surgical procedures done worldwide. De novo gastro-oesophageal reflux disease (GERD) after LSG is reported in the range of 0%-34.9%. The common long-term complications after LSG include symptoms of reflux, features of endoscopic oesophagitis and Barrett's oesophagus. A lower oesophageal peptic stricture after LSG is extremely rare and according to our knowledge, this has not been reported till date. We, with this present the first case of oesophageal peptic stricture post-sleeve gastrectomy and its management.

CASE REPORT

A 64-year-old man, who underwent LSG, 8 years back, presented to the bariatric outpatient with increasing intensity of reflux symptoms past 3 months. His pre-surgery upper gastrointestinal endoscopy was normal, with no signs of a hiatus hernia. Endoscopic examination revealed Grade D oesophagitis (Los-Angeles classification). A four quadrant biopsy around the GE junction showed mild chronic oesophagitis. The patient was put on proton pump inhibitors (PPI), twice daily. After 6 weeks, his dyspepsia subsided but started to have dysphagia for solids. On repeat endoscopy, a stricture was evident, measuring 3.5 cm in length, at the gastro-oesophageal junction along with a solitary lymph node. The endoscope was not negotiable beyond the narrowing [Figure 1]. Contrast-enhanced CT of abdomen and chest showed circumferential wall thickening of 1.6 cm, along with a solitary lymph node. The

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endoscopic biopsy was suggestive of reflux oesophagitis without dysplasia.

Endoscopic ultrasonography was done to rule out the possibility of malignancy. The patient received balloon dilatation up to 14 mm controlled radial expansion (CRE), in the same setting. Further treatment options in the form of prolonged PPI therapy, regular surveillance followed by dilatation against revisional procedure, were discussed with the patient. Accordingly, a laparoscopic revisional Roux-en-Y Gastric bypass (RYGB) was planned.

Intraoperatively, after adhesiolysis, sleeved stomach was assessed, which was non-dilated. The division of phreno-oesophageal fascia revealed laxity of hiatus with a small hernia, which was repaired with crurorrhaphy. The biliopancreatic and alimentary limb lengths were 50 and 100 cm respectively, given the primary intent of anti-reflux procedure rather than weight loss. The procedure lasted 90 min, was uneventful. The patient accepted clear liquids on post-operative day (POD) 01 and was discharged on POD 03 along with PPI twice daily therapy.

The patient received two sets of endoscopic CRE balloon dilation (through-the-scope oesophageal balloon dilator, Boston Scientific, MA, USA) up to 13.5 mm and 15 mm at one and 2 months’ follow-up, respectively. The patient has completed a 1-year follow-up after last dilatation, is currently asymptomatic.

DISCUSSION

De novo GERD following LSG has a reported incidence ranging from (0% to 30%).[1,2] A study reported de novo reflux symptoms in 23%, with the incidence of oesophagitis and Barrett’s changes in 5.5% and 1.2%, respectively.[1] The overall incidence of stricture following LSG has been reported to be 0.1%–3.9%. Dysphagia post-LSG was found to be in 22.7%, of which the stricture, mostly in the mid-body (54.5%) and incisura (30.2%) in the sleeve was found to be in 2.3% cases.[3]

The management of peptic oesophageal stricture consists of medical therapy with PPI, endoscopic dilatation and surgical management. Therapeutic endoscopic interventions include balloon dilatations at intervals of a 4–6 weeks, four-quadrant injection of Triamcinolone (40 mg/cc) (0.5cc/quadrant) and by the use of Self-expanding stents.[4,5] Newer endoscopic methods such as LINXTM (Torax Medical Inc., Shoreview, MN, United States), reflux management procedure system (magnetic sphincter device) and STRETTA™ procedure (Maderi Therapeutics Inc., Norwalk, United States), have been used as anti-reflux endoscopic measures with variable results.[7]

Laparoscopic RYGB owing to its anti-reflux property is considered the procedure of choice for treating obesity and GERD. It is equally effective in the management of de novo reflux after other procedures.[8] There is evidence of good clinical and endoscopic response with almost complete remissions.[9] Other surgical options in this setting are revisional sleeve gastrectomy, seromyotomy, hiatalplasty and anterior fundoplication especially in patients with dilated fundus following LSG.[10]

CONCLUSION

Benign peptic stricture in the lower oesophagus due to reflux after sleeve gastrectomy is rare. Conversion RYGB
along with optimal usage of serial dilatation and medical therapy can provide definitive relief.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

**REFERENCES**

1. Braghetto I, Csendes A, Korn O, Valladares H, Gonzalez P, Henriquez A, *et al.* Gastroesophageal reflux disease after sleeve gastrectomy. Surg Laparosc Endosc Percutan Tech 2010;20:148-53.
2. Himpele J, Dobbelt J, Petters G. Long-term results of laparoscopic sleeve gastrectomy for obesity. Ann Surg 2010;252:319-24.
3. Angrisani L, Santonico A, Iovino P, Formisano G, Buchwald H, Scopinaro N, *et al.* Bariatric surgery worldwide 2013. Obes Surg 2015;25:1822-32.
4. Shnell M, Fishman S, Eldar S, Goitein D, Santo E. Balloon dilatation for symptomatic gastric sleeve stricture. Gastrointest Endosc 2014;79:521-4.
5. Ramage JI Jr., Rumalla A, Baron TH, Pochron NL, Zinzmeister AR, Murray JA, *et al.* A prospective, randomized, double-blind, placebo-controlled trial of endoscopic steroid injection therapy for recalcitrant esophageal peptic strictures. Am J Gastroenterol 2005;100:2419-25.
6. Siersma PD. Treatment options for esophageal strictures. Nat Clin Pract Gastroenterol Hepatol 2008;5:142-52.
7. Desart K, Rossidis G, Michel M, Lux T, Ben-David K. Gastroesophageal reflux management with the LINX® system for gastroesophageal reflux disease following laparoscopic sleeve gastrectomy. J Gastrointest Surg 2015;19:1782-6.
8. Iannelli A, Debs T, Martini F, Benichou B, Ben Amor I, Gugenheim J, *et al.* Laparoscopic conversion of sleeve gastrectomy to roux-en-Y gastric bypass: Indications and preliminary results. Surg Obes Relat Dis 2016;12:1533-8.
9. Pallati PK, Shahram A, Shoostrom VK, Oleynikov D, McBride CI, Goede MR, *et al.* Improvement in gastroesophageal reflux disease symptoms after various bariatric procedures: Review of the bariatric outcomes longitudinal database. Surg Obes Relat Dis 2014;10:502-7.
10. Hawash A, Reyes M, Hare B, Meguid A, Harriott A, Almahmeed T, *et al.* Can morbidly obese patients with reflux be offered laparoscopic sleeve gastrectomy? A case report of 40 patients. Am J Surg 2016;211:571-6.