Obesity Surgery
https://doi.org/10.1007/s11695-020-04444-0

MULTIMEDIA ARTICLE

Internal Hernia Following Primary Laparoscopic SADI-S: the First Reported Case

Amit Surve[1] · Daniel Cottam[1] · Benjamin Horsley[1]

Abstract

Background Internal hernias have not been reported with primary laparoscopic single anastomosis duodeno-ileostomy with sleeve gastrectomy (LSADI-S). This is the first reported case of an internal hernia following primary LSADI-S and its surgical treatment.

Case Presentation In this video case report, we present a case of a 54-year-old woman with a BMI of 53 kg/m2 who had undergone a primary LSADI-S for morbid obesity. The patient underwent an exploratory laparoscopy for chronic nausea and bile reflux. At surgery, we discovered a Petersen's hernia defect, which was corrected by untwisting the bowel and sewing the space closed (video). A Braun enteroenterostomy was also performed.

Conclusions An internal hernia following LSADI-S is rare, despite the unclosed space behind the small bowel mesentery. If they occur, they should not cause ischemia and can be fixed easily using a laparoscopic surgical approach with good postoperative outcomes.

Keywords SADI-S · SIPS · Internal hernia · Surgical treatment · Bile reflux · GERD

Introduction

The single anastomosis duodeno-ileostomy with sleeve gastrectomy (SADI-S) was introduced to avoid complications associated with Roux limb construction [1–3]. Internal hernias have not been reported with this procedure. This is a case of a Petersen's internal hernia following primary LSADI-S with its surgical treatment.

Case Presentation

A 54-year-old woman with a BMI of 53 kg/m^2 had a primary LSADI-S for morbid obesity. Eighteen months postoperatively, the patient experienced gastroesophageal reflux disease (GERD) and nocturnal regurgitation. An esophagogastroduodenoscopy (EGD) was performed that revealed the presence of bile without hiatal hernia (Fig. 1). The pylorus was wide open, and it seemed that the afferent limb intussuscepted up to the pylorus (Fig. 1). The gastrointestinal series showed that the contrast left the sleeve stomach and went into the afferent limb and dilated it up (Fig. 2). The contrast left the

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s11695-020-04444-0) contains supplementary material, which is available to authorized users.

✉ Daniel Cottam
drdanielcottam@yahoo.com

Amit Surve
dramitksurve@gmail.com

Benjamin Horsley
ben.horsley11@gmail.com

[1] Bariatric Medicine Institute, 1046 East 100 South, Salt Lake City, UT 84102, USA

Published online: 02 March 2020

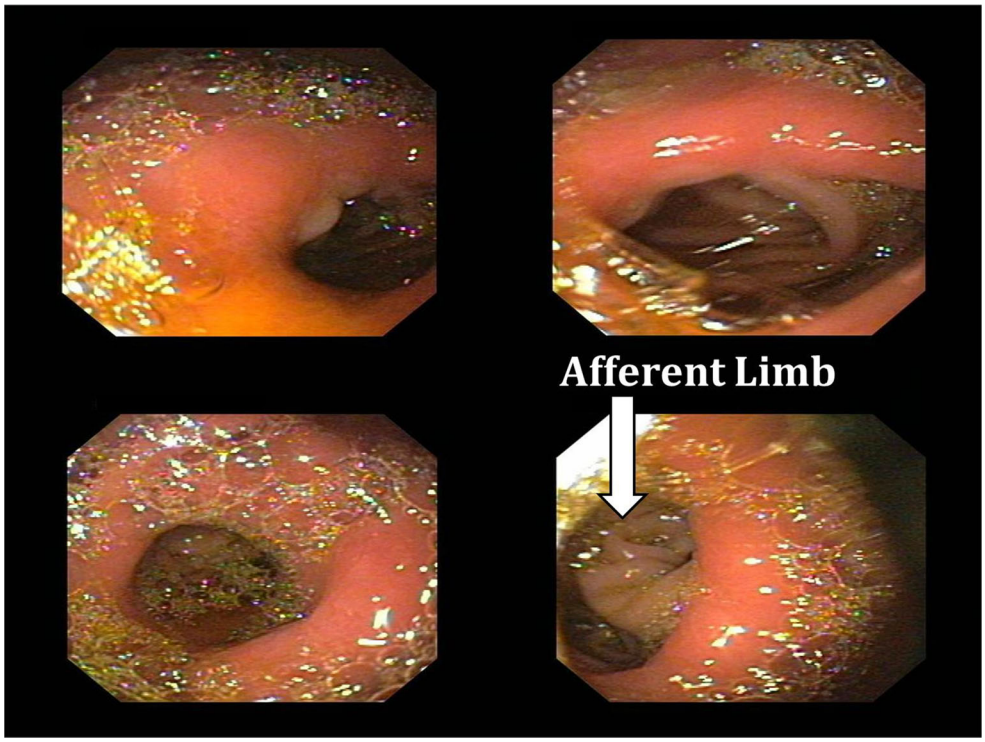

Fig. 1 An EGD following primary LSADI-S. *EGD* esophagogastroduodenoscopy; *LSADI-S* laparoscopic single anastomosis duodeno-ileostomy with sleeve gastrectomy. The EGD demonstrates the presence of bile with no hiatal hernia. Also, it appears as though the small bowel is attempting to intussuscept through the pylorus

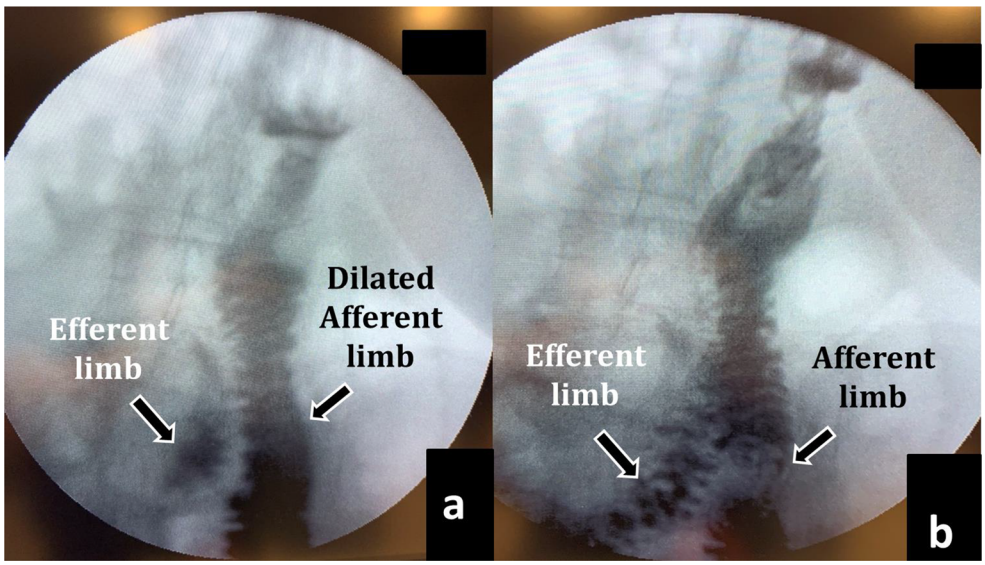

Fig. 2 An UGI performed after 18 months following LSADI-S. *UGI* upper gastrointestinal series; *LSADI-S* laparoscopic single anastomosis duodeno-ileostomy with sleeve gastrectomy. The UGI shows **a** contrast leaving the sleeve stomach, and going into the afferent limb and dilating it up. Small amounts of contrast passed into the efferent limb. **b**. Some contrast going back into the sleeve stomach as well as the efferent limb

afferent limb, but some went into the stomach and then in the efferent limb [4]. We elected to perform an exploratory laparoscopy for chronic nausea and bile reflux (video).

At surgery, we discovered a Petersen's hernia defect, which was corrected by untwisting the bowel and sewing the space closed. We also performed a Braun enteroenterostomy to ensure bile reflux did not occur since the patient had complained of this prior to surgery, and we worried about an incompetent pylorus.

Conclusions

An internal hernia following LSADI-S is rare, despite the unclosed space behind the small bowel mesentery. If they occur, they can be fixed using a laparoscopic surgical approach.

Compliance with ethical standards

Conflict of Interest Daniel Cottam, the corresponding author, reports personal fees and other from Medtronic and GI Windows, outside the submitted work. All other authors have no conflicts of interest to declare.

References

1. Surve A, Cottam D, Sanchez-Pernaute A, et al. The incidence of complications associated with loop duodeno-ileostomy after single-anastomosis duodenal switch procedures among 1328 patients: a multicenter experience. Surg Obes Relat Dis. 2018;14(5):594–601.
2. Sánchez-Pernaute A, Rubio Herrera MA, Pérez-Aguirre E, et al. Proximal duodenal-ileal end-to-side bypass with sleeve gastrectomy: proposed technique. Obes Surg. 2007;17(12):1614–8.
3. Surve A, Zaveri H, Cottam D, et al. A retrospective comparison of biliopancreatic diversion with duodenal switch with single anastomosis duodenal switch (SIPS-stomach intestinal pylorus sparing surgery) at a single institution with two year follow-up. Surg Obes Relat Dis. 2017;13(3):415–22.
4. Surve A, Zaveri H, Cottam D. Retrograde filling of the afferent limb as a cause of chronic nausea after single anastomosis loop duodenal switch. Surg Obes Relat Dis. 2016;12(4):e39–42.