

CASE REPORT

Laparoscopic transgastric removal of eroding gastric band: a different approach

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Abstract

Gastric banding is a popular method for the treatment of morbid obesity. Amongst complications, gastric erosion remains uncommon but could prove fatal. Multiple techniques, from open surgery to endoscopic and standard laparoscopic technique for their removal, have been previously detailed in the literature. However, only a few reports have mentioned their total laparoscopic transgastric removal in the literature. Herein, we report a successful removal of an eroding gastric band with its technical suggestion in a 43-year-old female patient 22 months following its application.

INTRODUCTION

Laparoscopic adjustable gastric banding (LAGB) is an accepted and common procedure for morbid obesity. However, erosion of gastric wall is a recognized complication. In a systematic review by Egberts et al. [1], the overall incidence was 1.46% at mean follow up of 3.7 years. Upon detection of gastric band erosion, their immediate removal is highly advocated as their delay is associated with significant mortality and morbidity. Multiple techniques for band removal have been described. These include total endoscopic (endoluminal), laparoscopic, combined laparoscopic and endoscopic approach, and open surgery in complex cases. Amongst them, the endoluminal approach is the least invasive of all; however, this might not be feasible and applicable in some cases. When the anterior wall of the stomach is densely scarred and there are some adhesions, and earlier techniques have failed to prevail, laparoscopic transgastric might be an effective technique if band cannot be safely removed [2]. Herein, we report a successful removal of an eroding adjustable gastric band with its

technical suggestion in a 43-year-old female patient 22 months following its application.

CASE REPORT

A 43-year-old lady with a body mass index (BMI) of 40 with past medical history of hypertension had a LAGB for morbid obesity 22 months ago. She presented to the emergency department with 3-day history of epigastric and shoulder pain. On examination, she was found to have epigastric tenderness with signs of localized peritonitis. She was tachycardic at 90/minute with a temperature of 38.3. Upon admission, her BMI was 31 and she was found to have a raised white cell count of 12.5×10^9 and C-reactive protein of 155.6 mg/dl. Apart from albumin (27 g/L), no other serological and/or haematologic markers were found to be abnormal. Computed tomography (CT) of abdomen (Fig. 1) demonstrated no collection or contamination with localized gas loculation around the band (Fig. 2). Decision was made to remove the band endoscopically and the patient was taken to

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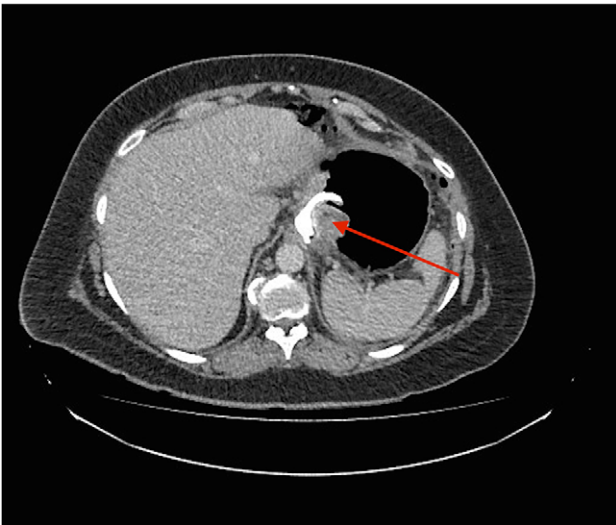


Figure 1: Cross section CT image demonstration the site of the band with no collection (red arrow).

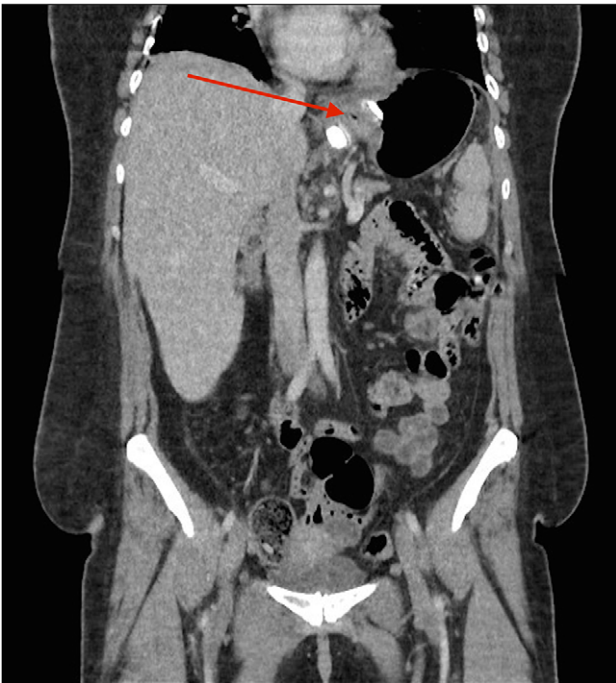


Figure 2: CT image demonstrating the air loculation site next to the band (red arrow).

the operating theatre were endoscopy demonstrated gastric wall erosion. Attempt to remove the band endoscopically due to tightness on the gastric wall failed. Therefore, access to the abdominal cavity was obtained by placement of 3 × 10 mm ports (right upper quadrant (RUQ), left upper quadrant (LUQ), Umbilical) and 2 × 5 mm ports (epigastrium and left upper quadrant). No free fluid and/or contamination was identified within the abdominal cavity. Following the removal of the adhesions from the lesser curvature of the stomach and liver bed, gastrotomy was performed and two ports (10 mm and 5 mm) were then pushed forward from abdominal cavity into

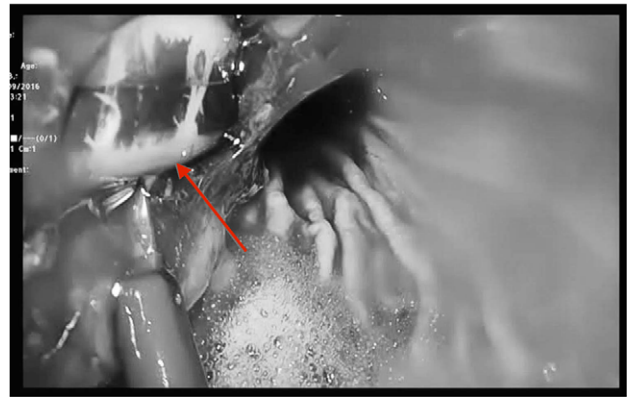


Figure 3: Transgastric image of the gastric band and its retrieval.

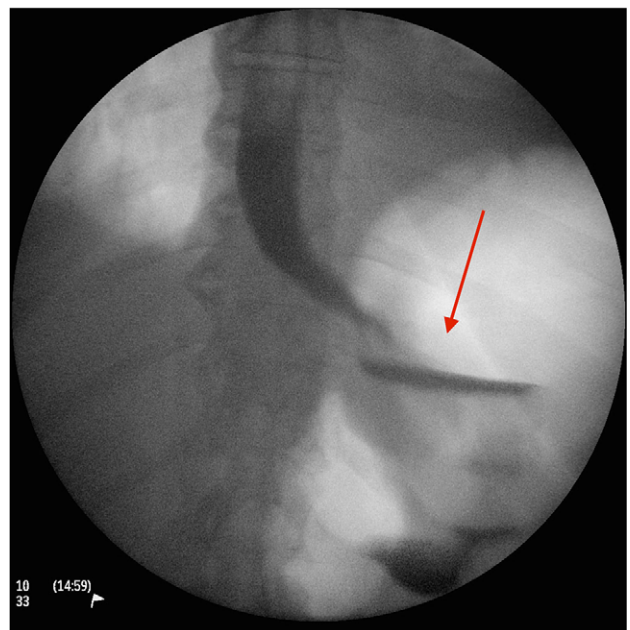


Figure 4: A postoperative Gastrografin swallow showing no leaks 3 days following the procedure.

the stomach. Both ports were held in place by inflation of the non-traumatic balloon ends. The band was identified, divided and removed through one of the port sites (Fig. 3). Both gastrotomies were closed with 3/0 PDS suture and stomach inflation test (air leak test) using endoscopy was negative. A postoperative Gastrografin (Fig. 4) swallows 3-days later confirmed no contrast extravasation. Patient was discharged at Day 4 with complete resolution of the symptoms.

DISCUSSION

Laparoscopic gastric banding remains an effective technique for the treatment of morbid obesity and is a primary and preferred choice for different centres. The reported complications vary from port site infection to band migration, pouch dilatation and gastric erosion. Amongst them, gastric wall erosion presents late (1–3 years) and the current reported incidence is estimated 0.3–14% [3]. Erosion can occur as a consequence of gastric wall ischaemia either secondary to a tight band and/or chronicity (pressure necrosis), peptic ulcer perforation, chronic

inflammation due to contaminated device, binge eating and self-induced vomiting. In our reported case, patient did not suffer from any of the aforementioned factors apart from chronicity of the gastric band. The clinical presentation of gastric erosion is varied and but majority of individuals report abdominal pain, systematic inflammatory response (raised inflammatory markers) and in some advance cases perforation, sepsis and multi-organ failure [4].

The gold standard investigative modality is endoscopy [5]. CT is another option, although such tool is more useful in detection of associated complications such as extend, site and type of perforation and/or contaminations. Upon detection of erosion, removal remains the only option and should be performed promptly to avoid associated mortality and morbidity. The use of prophylactic antibiotics in such circumstance is not clear but in our centre we highly recommend their use upon suspicion of diagnosis. In case of band migration and/or erosion, endoscopic removal has shown promising results, although such technique is not always applicable and their open retrieval has been suggested and performed. Another option is standard laparoscopic division and retrieval. Although feasible and successful, this method does not always permit a comprehensive visualization, dissection and division. In our reported case, we encountered the aforementioned factors. Therefore, the decision was made to create anterior gastrotomies (extension of the port to stomach) to facilitate full division, retrieval of the gastric band and assessment of the erosion and its repair if necessary through transgastric approach. The authors believe, such procedure is safe and feasible in circumstances when standard laparoscopic retrieval is not possible. Placement of a new gastric band is usually delayed for a period of 3 months in such cases [3, 5]. In the

reported case, patient made an uneventful recovery and was discharged 3 days following the procedure.

In conclusion, transgastric division and removal of gastric band is safe, feasible and a good alternative when standard approach is not feasible. This procedure is associated with short recovery period and early discharge. Written informed consent was obtained from the patient for publication of this case report and accompanying images. No identification details have been used.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Egberts K, Brown WA, O'Brien PE. Systematic review of erosion after laparoscopic adjustable gastric banding. *Obes Surg* 2011;**21**:1272–9.
2. Liu D, Gonzalvo JP, Murr M. Laparoscopic transgastric removal of an eroded adjustable gastric band. *Surg Obes Related Disease* 2014;**10**:184–5.
3. Cherian PT, Goussous F, Ashori F, Sirgurdsson A. Band erosion after laparoscopic gastric banding: a retrospective analysis of 865 patients over 5 years. *Surg Endosc* 2010;**24**:2031–8.
4. Chousleb E, Szomstein S, Lomenzo E, Higa G, Podkameni D, Soto F, et al. Laparoscopic removal of gastric band after early gastric erosion: case report and review of the literature. *Surg Laparo Endosc Percutan Tech* 2005;**15**:24–7.
5. Mozzi E. Treatment of band erosion: feasibility and safety of endoscopic band removal. *Surg Endosc* 1820;**25**:3918–01122.