Mesentero-axial gastric volvulus after removal of laparoscopic adjustable gastric band

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ABSTRACT

Despite the decreasing popularity of gastric banding, a large number of patients still have a band in situ. Although immediate post-operative complications are relatively rare, long-term complications of gastric banding are more common but are not reported to occur after band removal. We report a case of gastric volvulus and subsequent ischaemic perforation in a patient shortly after band removal, resulting in emergency laparotomy and total gastrectomy. Severe continuing pain persisting after band deflation and even gastric band removal should be treated as an emergency and urgent investigation should not be delayed.

KEYWORDS

Gastric volvulus – Obesity – Bariatric surgery – Gastric band – LAGB

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Introduction

Weight loss surgery has thus far proved the only effective treatment for obesity in the long term, providing weight loss maintenance, remission of type II diabetes, improvement in cardiovascular risk and survival.¹ Laparoscopic adjustable gastric band (LAGB) surgery involves the placement of a silicone band around the upper part of the stomach, which is connected to a subcutaneous reservoir in the anterior rectus sheath. It is thought to reduce caloric intake and to induce early and prolonged satiety through a mechanism which is not fully elucidated.² LAGB has an overall attractive safety profile compared with other types of bariatric surgery. Although the popularity of LAGB has decreased over recent years,³ there is still a large number of patients who have a gastric band in situ. The perioperative safety of LAGB is very high, but late complications are relatively common and the reoperation rate can be up to 20% over 5–10 years.⁴ Late complications include slippage, erosion and migration of the band.⁵ Most clinicians would expect that the risk of complications is eliminated with the removal of the band. Gastric volvulus is a rare but potentially fatal complication of gastric band surgery; however, we are not aware of any cases of gastric volvulus reported in the literature occurring after removal of the band.

Case report

A 49-year-old woman presented with severe dysphagia, abdominal pain and intractable vomiting 11 days after a laparoscopic gastric band removal. She had undergone LAGB for morbid obesity 4 years earlier, however, over the preceding 12 months she experienced worsening dysphagia, and

had attended her local district general hospital to have the band removed after contrast studies had revealed slippage of the band. The emergency laparoscopic removal of the band was uneventful, requiring limited dissection as only minimal scarring was encountered. The emergency general surgeon was satisfied that the stomach looked healthy and there was no evidence of ischaemia or perforation. After an initial improvement in the patient's symptoms, she subsequently developed persistent worsening abdominal pain and vomiting. An oesophagogastroduodenoscopy (OGD), barium swallow (Fig 1) and computed tomography (CT) scan suggested possible gastric volvulus, which prompted the urgent transfer of the patient to a tertiary referral centre for operative management.

Upon transfer, a repeat CT scan with oral and intravenous contrast (Fig 2a,b) revealed mesenteroaxial gastric volvulus and gastric perforation, with significant distension of the stomach and the distal oesophagus, pneumoperitoneum and four-quadrant collections. On examination, her abdomen was distended and there were signs of generalised peritonism.

An emergency laparotomy carried out 2 weeks after the initial laparoscopic band removal revealed the posterior fibrous capsule in the body of the stomach to be intact and a herniation of the stomach through the posterior capsule. This resulted in volvulus and ischaemia of the proximal two-thirds of the stomach, with a perforation along the lesser curve and associated four-quadrant peritonitis. A gastrectomy was then performed with a Roux-en-Y anastomosis reconstruction. The patient had an uneventful postoperative course with a hospital stay of 12 days. A wound infection was treated with vacuum-assisted closure and the patient made a full recovery.

Figure 1 Barium swallow demonstrating a dilated stomach

Discussion

LAGB is generally a safe and effective method of facilitating weight loss in patients who are morbidly obese, with significant improvements in quality of life and obesity-related comorbidities. Laparoscopic banding is associated with fewer immediate postoperative complications and shorter hospital stay compared with other types of bariatric surgery, including laparoscopic Roux-en-Y gastric bypass and sleeve gastrectomy.⁵

This patient improved transiently after laparoscopic removal of the gastric band. Endoscopy and cross-sectional imaging raised the suspicion of gastric volvulus and the mechanism of this became apparent only during the subsequent emergency laparotomy. A high index of suspicion is required for any patient who fails to improve after the removal of a gastric band. Although it is often the emergency general surgeon who faces this scenario, consultation with the regional bariatric team or upper gastrointestinal unit can be helpful depending on the local expertise and availability.

(a) Coronal abdomen

(b) demonstrating a dilated stomach and gastric volvulus

Figure 2 Axial computed tomography of the abdomen

Patients who undergo removal of gastric band should not only have the band taken out with the anterior wall of the capsule but also a part of the posterior wall of the capsule should be divided or removed in order to prevent gastric volvulus. Furthermore, it should be highlighted that, in patients with gastric bands presenting with dysphagia, often in the emergency department, urgent deflation should not be delayed.⁵ Ensuring that the patient's symptoms resolve is also crucial. Pain out of proportion to patients with an adjustable gastric band, even after its removal, should be investigated as an emergency.

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