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Hybrid Laparoscopic and Endoscopic Management of Gastric Band Erosion Resulting in Bowel Obstruction

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Abstract

While laparoscopic gastric banding is not as prevalent, the management of patients with a history of gastric banding remains a concern. Gastric bands have been noted to erode and can migrate through the bowel leading to a variety of issues. We were able to successfully manage this almost completely endoscopically without the need for a bowel enterotomy for retrieval. This allowed for enhanced patient recovery and avoided the morbidity associated with bowel enterotomy which is commonly done in these settings.

Keywords

bariatric, surgery, gastric bands, bowel obstruction

Hybrid Laparoscopic and Endoscopic Management of Gastric Band Erosion Resulting in Bowel Obstruction

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Abstract

Laparoscopic gastric banding once accounted for >35% of bariatric procedures but recently this number has decreased to <5% of bariatric procedures. While the procedure itself has declined, the surgical management of laparoscopic band-related complications remains relevant. One such complication, band erosion, occurs at rates as high as 3-4%. Our goal was to utilize a laparoscopic assisted endoscopic approach to gastric band erosion and migration. While this technique is not well described in the literature, the goals were to avoid an enterotomy, be able to assess the small bowel and "milk" the band back under direct visualization. We were able to successfully manage small bowel obstructions related to gastric band erosion and migration without the need for bowel enterotomies. Since there was no enterotomy performed this approach can thus expedite recovery. This demonstrates the feasibility of minimally invasive approach in treating laparoscopic band erosions.

Introduction

Bariatric surgery is a rapidly evolving field with laparoscopic gastric banding being used fromits early stages. Its popularity has since slowly faded as the use of gastric bypass and gastric sleeve have increased. However, management of gastric bands remains important. While uncommon,band erosion is a well-documented complication that can occur at rates as high as in 3-4% of all patients treated with laparoscopic gastric banding.[1,2] Most studies have found that erosions occur within the first 18-24 months of placement with the median time being around 39 months from initial surgery.[1,2,3] However, erosion can be seen as a late and silent complication, with classic intragastric migration. Symptoms such as cessation of weight loss or weight regain, and port site infection are classic for possible erosion and this must be high on the differential diagnosis.

In some circumstances, eroded bands can be associated with partial or complete migration into the distal bowel.[4] Several studies have shown band migration into the jejunum, causing small bowel obstruction.[5] While endoscopic band removal is ideal, this form of management has mainly only been used when the band remains in the stomach and has not yet migrated to the small bowel. Most of the reported cases in the literature of bowel obstruction relating to migrated gastric band have documented an operative approach to treat the patients. With small bowel migration, the most commonly described procedure involves making a small bowel enterotomy to remove the migrated band. While this is successful, bowel enterotomy has its own morbidity, including risk for infection, leak, and stenosis at that site. The ability to retrieve the band by the endoscopic approach can be associated with decreased morbidity. Herein, we describe a case of laparoscopic gastric band migration into the small bowel that was managed by a hybrid laparoscopic/endoscopic approach and thereby avoiding an enterotomy. Consent was obtained from the patient to use this case for educational purposes.

Case

Our case highlights the use of laparoscopic assisted endoscopic management, even in the face of distal bowel migration. Our 48-year-old male initially presented with abdominal pain, and signs and symptoms consistent with a small bowel obstruction for approximately 24 hours. The patient had a history of laparoscopic gastric band placement over 5 years previously and no fluid remained in his band. The CT scan showed band erosion and distal migration into the proximal jejunum with complete bowel obstruction (Figure 1). On physical exam, the patient had no signs of infection at his port site and minimal abdominal tenderness. The decision was made to take the patient to the OR for further management.

Upper endoscopy was first performed to examine the prior band location and locate the band. Several laparoscopic ports were also placed to allow for visualization of the stomach and bandtubing. The tubing was ligated close to the stomach and the port was removed without any difficulty or signs of infection. The small bowel was run laparoscopically, and the port was located within the jejunum. Instead of making an enterotomy in the bowel for removal of the band, graspers were used to milk the port backwards from the jejunum to the proximal duodenum. Then, endoscopically, the port was located in the duodenum and removed transorally (Figure 2). The patient recovered uneventfully and was discharged expediently without any further complications.

Discussion

This case highlights the importance of imaging in patients with a history of previous gastric band surgery, who present with bowel obstruction, to determine if the band is the cause of obstruction. . If this is the case, attempting a minimally invasive approach when possible can be associated with decreased morbidity and expedited hospital course.

This minimally invasive technique is outlined here as a hybrid approach. With laparoscopic manipulation and an endoscopic approach, we were able to retrieve the band without an enterotomy and its resultant morbidity. While this technique is not well described in the literature, the goal is to be able to assess the small bowel and "milk" the band back under direct visualization, thereby avoiding an enterotomy. This case demonstrates the feasibility of a minimally invasive approach with a combination of laparoscopic and endoscopic techniques to treat small bowel obstruction resulting from migrated gastric band. .

Conclusion

Gastric band erosion and migration resulting in small bowel obstruction is an uncommon complication. There are few reports of this complication in the literature. We believe our case isa rare example of laparoscopic band-related bowel obstruction that was treated by a hybrid minimally invasive approach combining the laparoscopic and endoscopic techniques. This hybrid approach facilitated the milking of the migrated band back into the stomach under direct vision and thereby avoid any inadvertent bowel injury or enterotomy. The band was subsequently retrieved by the endoscopic approach. The hybrid laparoscopic-endoscopic approach can be a viable option to treat patients with migrated gastric band-related obstruction without the need for an enterotomy and can be associated with decreased morbidity and a shorter hospital stay. ■

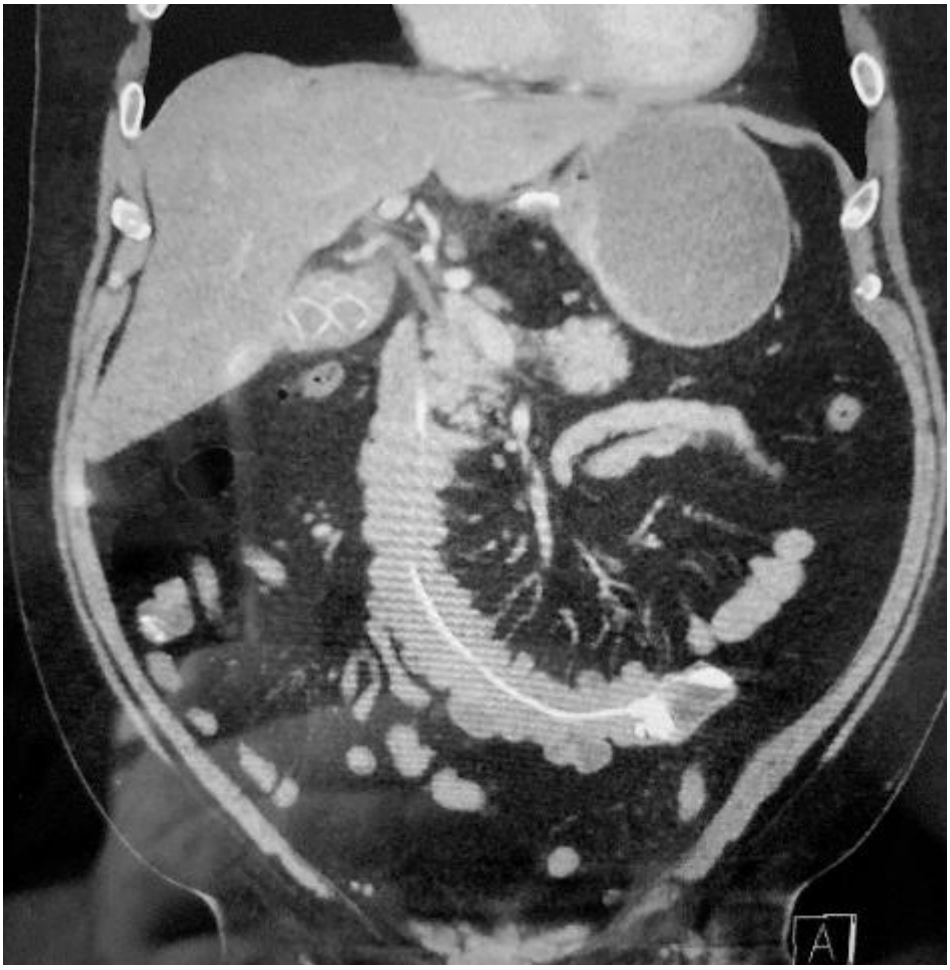

Figure 1. CT scan of the abdomen. Evidence of laparoscopic gastric band that has eroded into the stomach and is not present distally in the small bowel.

Figure 2. Intra-gastric gastric band after being milked back into the stomach. Now being retrieved endoscopically and removed orally.

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