Early Lap-Band Erosion Associated With Colonic Inflammation: A Case Report and Literature Review

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ABSTRACT

Introduction: Laparoscopic adjustable gastric banding is an effective and safe surgical modality for the treatment of morbid obesity. Erosion of the band into the stomach has been reported. No reports are available on erosion of the Lap-Band following diverticulitis of the colon.

Case Report: A 31-year-old female with a body mass index (BMI) of 52 underwent an uneventful laparoscopic Lap-Band placement. Postoperative contrast study revealed good positioning of the band and no evidence of leakage. The patient’s recovery was uneventful except for an elevated temperature of 101.5°F that was attributed to her atelectasis. She had lost 52 lbs. and remained asymptomatic for 3 months. Following this period of successful weight loss, she presented with complaints of abdominal pain for 3 days associated with diarrhea of 7 days’ duration. A Gastrografin contrast study showed no evidence of a leak or band slippage but erosion was suspected. Upper endoscopy confirmed erosion of the band into the stomach. Computed tomography (CT) of the abdomen revealed thickening of the sigmoid and descending colon with mesenteric fat stranding consistent with diverticulitis. Laparoscopic removal of the Lap-Band system was performed.

Conclusion: We postulate that colonic diverticulitis could have been a precipitating factor in the development of band erosion. Intraabdominal sepsis resulting in subacute infection of the Lab-Band system may be the underlying factor.

Key Words: Lap-Band, Erosion, Morbid obesity, Bariatric surgery.

INTRODUCTION

Since its introduction in 1993,1 laparoscopic adjustable gastric banding has been shown to be a safe procedure for the surgical treatment of morbid obesity. Laparoscopic placement of a Lap-Band system is the least invasive method for the restriction of caloric intake in morbidly obese patients. The minimally invasive nature, adjustability, reversibility, and quick postoperative course have made it the desirable treatment for some patients. The potential advantages of this procedure over traditional gastroplasty and bypass operations include reversibility and low systemic and operative complication rates. Complications may involve the access port (leakage, dislocation, infection, inaccessibility), pouch dilation, prolapse (slippage) of the stomach through the band, balloon rupture, and erosion of the band into the stomach.2

Migration of the band through the stomach wall (erosion) is a well-known late complication, which usually requires removal of the band. The incidence of intragastric band erosion varies between different series and was reported in 0.5% to 11% of cases.3–5 Studies reporting a high rate of intragastric band migration use gastroscopy routinely to follow up on these patients.5 Laparoscopic removal of the eroded band and repair of the gastric wall is feasible.6 Placement of a new Lap-Band during the same procedure has been reported.7 Interval replacement of the Lap-Band system8 or conversion to another restrictive or malabsorptive operation,9 although technically challenging, should be considered if maintenance or further weight loss is desired. No report to date is available on erosion of the Lap-Band system following an episode of an acute intra-abdominal infection.

CASE REPORT

A 31-year-old female with a BMI of 52 kg/m² underwent an uneventful laparoscopic Lap-Band (Inamed, Santa Barbara, CA, USA) placement. Postoperative contrast study showed no evidence of a leak. The patient’s recovery was uneventful except for 4 days of unexplained fever of 101.5°F. An x-ray finding of bilateral atelectasis was suspected as the most likely cause, and she was discharged home. She had lost 52 lbs and remained asymptomatic for...
3 months. Following this initial period, she presented with complaints of abdominal pain for 3 days associated with 7 days of diarrhea. Her temperature was 100.5°F, and her white blood cell count was 19 000. A contrast study revealed no evidence of leakage or slippage but the possibility of erosion was suspected (Figure 1). Upper endoscopy confirmed the presence of erosion (Figure 2), and the computed tomography scan of the abdomen and pelvis revealed thickening of the sigmoid and descending colon with mesenteric fat stranding consistent with diverticulitis (Figure 3). The patient was admitted for 3 days of intravenous antibiotics, and her clinical status improved. However, due to persistence of her symptoms of epigastric discomfort and the left lower quadrant abdominal pain associated with localized tenderness, she returned for removal of the Lap-Band system.

At the operation, no evidence of infection was noted at the reservoir site. Through the laparoscopic approach, the buckle was freed from the surrounding adhesions, the band was cut at its inflatable part just to the left of the buckle, and the band was pulled out of its capsule. The opening was closed by using intracorporeal suturing. The band and access port were removed. Air insufflation via the nasogastric tube and instillation of methylene blue did not reveal any air leak or contrast extravasation. Postoperative contrast radiograms did not reveal any evidence of leakage, and the patient recovered well.

**DISCUSSION**

Late erosion (more than 6 months) of the Lap-Band is well documented and is thought to be due to chronic infection or to be a consequence of different mechanisms such as direct pressure of the band caused by tight gastrogastric plication over the buckle of the band, extensive dissection that impairs blood supply, band inflation immediately postoperatively, or use of nonsteroidal antiinflammatory drugs. The causes of early erosions are mostly secondary to undetected intraoperative perforation of the esophagus or stomach.

Good surgical technique and avoidance of gastric or esophageal injury is essential in minimizing the possibility of an early erosion. Any suspicion of erosion warrants timely investigation including radiological contrast study.
and upper endoscopy.\textsuperscript{12} If left untreated, the band could migrate completely into the gastric lumen and cause an obstruction.\textsuperscript{13} Symptoms suspicious of band erosion include the inability to regulate the stoma, cessation of weight loss or unexplained weight regain, port-site infection, excessive vomiting, low-grade infection, or abdominal pain.\textsuperscript{10}

We present a complication of Lap-band erosion with the possibility of a colonic infectious process as the underlying cause. The presence of a Lap-Band as a foreign body renders the patient more susceptible to infectious complications. A possible cause of the band erosion in the presented case includes an intense inflammatory reaction due to infection.\textsuperscript{14} We postulate that the band infection due to diverticulitis could have created a subacute infection of the band resulting in erosion of the band into the gastric lumen. The recommended treatment of band erosion is the surgical removal of the band. Some authors recommend postponing band removal until the erosion is complete, so that the gastric wall completely overgrows the band.\textsuperscript{9} If the device is located completely intragastrically, gastroscopic removal could be attempted.\textsuperscript{5}

\textbf{CONCLUSION}

We suggest close follow-up of the Lap-Band patient suffering from an intraabdominal infection because a subacute infection of the Lap-band system may ensue. Should erosion of the band into the stomach develop, the band should be removed. The timing of the intervention and the choice of the revision operation remain to be established.

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