Abstract

Although laparoscopic adjustable gastric banding has been shown to be a safe and effective weight loss procedure, band migration and erosion into gastric wall has been reported in all series. Gastric band migration may lead to portocutaneous fistula. We report three cases. All of patients underwent laparoscopic adjustable gastric banding for morbid obesity and subsequently presented portocutaneous fistula associated with band migration.

Key words: gastric band, migration, fistula

INTRODUCTION

Laparoscopic adjustable gastric banding (LAGB) was the first minimally invasive procedure for morbid obesity. It is apparent simplicity contributed to the boom of bariatric surgery during the second part of the 1990’s (1). This procedure has proven its effectiveness in achieving and maintaining weight loss and improving obesity-related comorbidities, quality of life and survival (2). Nowadays, LAGB is the most frequently performed bariatric operation in the world. According to the manufactures, over 250000 procedures have been performed (3). When the gastric banding was introduced some 15 years ago, early results were promising and complication rate was low (4,5). LAGB procedure has device-related problems that can lead to repeated re-operation and failure during the late postoperative period(6). Complications related to the port site and connecting tube are usually considered minor problems in follow-up of obese patients submitted to LAGB, but the prevelance ranges from 4.3% to 24% (7,8). Recognised band-related complications after LAGB include band slippage and band erosion (9). Band erosion often has an indolent course and frequently presents itself with infection at the reservoir implantation site. Band migration and erosion in to gastric wall has been reported in all series. Complet gastric band migrasyon in to gastric or intestinal lumen is very rare. Simultaneous erosion to gastric wall may be gastric complet migration and portocutaneous fistula. Herein we present three complicated patients undergoing LAGB. In these three patients, band migration with portocutaneous fistula has occured.

CASE 1

A 36- years-old woman with morbid obesity (BMI 53.9kg/m²) had a laparoscopic adjustable gastric band inserted in June 2007. The initial postoperative course was unremarkable. One year after the operation, she was admitted to our clinic with mild purulent discharge from the incision above the port site. It was thought to be a chronic port-site infection or foreign body reaction after the port replacement. She was treated conservatively with antibiotics. She had lost 62 kg (BMI 30.9kg/m²) until November 2009. From November 2009 to day, she began increasing weight (BMI 37.2kg/m²), therefore, the band was adjusted three times with a total volume of 7 ml. She complained severe epigastric pain during two days at March 2010. While investigating this complaint, she performed fluoroscopy revealed enlargement of proximal pouch and otherwise entirely normal anatomy (Figure 1). It...
Figures 1-4 are images that illustrate the procedures mentioned in the text. The text describes three cases of complications post gastric banding surgery and the interventions performed to address these issues.

**CASE 1**

A patient with morbid obesity had a gastric band inserted. The band migrated into the terminal ileum and was removed. Vertical band gastroplasty was performed.

**CASE 2**

Another patient suffered from a porto-cutaneous fistula and required a revision procedure with the placement of a mini-pouch gastric bypass.

**CASE 3**

A third patient with a gastric band inserted required a revision due to porto-cutaneous fistula and was treated with a mini-pouch gastric bypass.

The text also mentions the need to adjust the gastric band volume and the use of antibiotics for treatment of infections.

In summary, the text highlights the importance of monitoring and adjusting gastric bands post-surgery to prevent complications such as migration and infections.

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**Figures 1-4**

- **Figure 1.** Dilation at proximal pouch
- **Figure 2.** Gastric band into the terminal ileum
- **Figure 3.** Removal of the gastric band
- **Figure 4.** Gastroscopic view of the incomplete band migration
was removed. Vertical banded gastroplasty was performed as revisional procedure. Postoperative course was unremarkable.

**DISCUSSION**

Obesity has increased exponentially throughout the world in last few decades (10,11). Severe or morbid obesity associated with major comorbidities and a significantly reduced life expectancy (12). The conservative approach to weight loss, consisting of diet, exercise and medication generally achieves no more than 5% to 10% reduction of excess weight, and >90% of patients regain the weight lost within 5 years (13). Bariatric operations have been shown to effectively achieve and maintain weight loss (14-16) and to reduce obesity-related morbidity and mortality(17,18). LAGB has been shown to be a safe and effective weight loss procedure (19,20). LAGB in the least invasive procedure which has the advantage of preserving the anatomy of the gastrointestinal tract (21). Early results report small complication rate. LAGB is characterized by a low operative risk the possibility for reversal, and good weight loss at long term. Because implantation of the gastric band appears to be relatively simple, we see a risk that surgeons and patients might be too easily tempted to decide for implantation (22).

LAGB most common complications were esophagitis, pouch dilatation, esophagial dilatation, port problems, band migrations and band leakage. Most complications were treated conservatively. Intragastric migration of the band is not common but intestinal migration is very rare (6). Band migration and infections can be serious problem. We have three patients experienced intragastic migration of the band: one was detected by endoscopy performed because of chronic infection of the port-site and weight gain, one was associated with chronic infection of the port-site and weight gain and one was associated with chronic infection of the port-site. Band migration is a major complication of LAGB (21) that can be divided early or late erosion. Early erosion seems to be caused by a minimal damage to the gastric wall during initial operation and in always associated with serious infection (23). Late erosion takes place over a long period time. It is results of destructive process and an effective self healing of the gastric wall, associated with no or very minimal infections process(23). There are two possible mechanisms responsible for late erosion; pressure applied to gastric wall (24) and foreign body reaction reaction (21,24). Perforation and slippage rates decreased when surgical skill progressed, but migration and port infection increased during follow-up because of the long-lasting foreign body. Bigani et all (25) published 591 consecutive patients 10 years and an overall complication rate from 23.3%, but noticed a dramatic decrease in the complication rate from 70% (first 30 patient) to 2.5% during the 4 years. Shapiro et al (26) showed a significant difference operative time, complication, and reoperation rates between the first 30 patient and the second patient, independently of the surgeon’s experience in laparoscopy surgery. This could be one explanation for our patient with band migration. Because these three patients was in our first 50 patients who underwent LAGB. Re-do surgery due to pouch dilatation and port site infection is done within 4 and 2 years respectively (23,27,28). Our two patients need to re-do surgery after two years. But we perform a revision within first year in a patient.

Gastroscopy or contrast medium-enhanced roentgenogram makes band migration diagnosis (21,24). Since these examinations are not performed as a routine and band erosion is often asymptomatic, it can be assumed that the incidence (0.6% to 11%) of band erosion described is underestimated (1,3). We detected the band migration by gastroscopy and fluoroscopy in two patients. Chronic portocutaneous fistula was indication for revisional surgery in the other patient. Infection and disconnection will require abdominal reoperation, and port leakage and rotation can be treated under local anesthesia. Infection of the port requires temporary explantation, because sepsis could lead to band infection and erosion. Disconnection of the port facilitates complete intraluminal migration (23). Complete intraluminal migration was detected due to disconnection of port in the patient who first mentioned in this series. We observed port site infection in two patients and trocar entrance infection in one patient. Purulent discharge kept on over several months. We detected a fistula tract from gastric wall to abdominal wall in all patients. We did not use fistulography as a diagnostic method but we think the diagnostic value would be high if it was performed. If there is a chronic purulent discharge from the port entrance or port site, band migration should be considered in patients undergoing LAGB.

**REFERENCE**


