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SELÇUK TIP DERGİSİ

Laparoskopik Gastrik Band Uygulaması: Band Migrasyonu ve Portokutanöz Fistül Arasındaki İlişki

Laparoscopic Gastric Banding: The Relationship Between Band Migration and Portocutaneous Fistula

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Özet

Laparoskopik ayarlanabilir gastrik band (LAGB) uygulaması güvenli ve etkili bir kilo verme prosedürü olarak gösterilmektedir. Ancak, band migrasyonu ve gastrik duvar erozyonu gibi sık görülen komplikasyonları bildilmiştir. LAGB uygulanan hastalarda portokutanöz fistül gastrik band migrasyonunun sonucu oluşabilir. Biz morbid obezite nedeniyle LAGB uygulaması yapılan ve sonrasında migrasyon ile ilişkili portokutanöz fistül gelişen 3 vaka rapor ettik.

Anahtar kelimeler: gastrik band, migrasyon, fistül

Abstract

Although laparoscopic adjustable gastric banding has been shown to be a safe and effective weight loss procedure, band migration and erosion in to 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 minmally 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 comorbidites, quality of life and survival (2). Nowadays, LAGB is the most freguently 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).Recognized 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.

MATERIAL and METHODS

The study was conduced in Selçuk University, Faculty of Medicine, Konya, Turkey. The prospectively maintained database of our bariatric team was retrospectively reviewed. Data included age, gender, preoperative weight, BMI (prebariatric and pre-revision surgery), indications for surgery, the revision procedure, operation time, hospital stay and postoperative complications. Laparoscopic adjustable gastric banding (LAGB) was performed in 65 patients. Three patients with purulent discharge from port site, who were laparoscopic adjustable gastric banded by our bariatric team, were included in this study

CASE 1

A 36- years-old woman with morbid obesity (BMI 53.9kg/m^2) had a laparoscopic adjustable gastric band inserted in June 2007. The initial postoperative course was unremarcable. One year after the operation, she was admitted to our clinic with mild purulent discharge from the incision above the access port site. It was thought to be a chronic port-site infection or foreign body reaction after the port replacement. She was treated consevatively with antibiotics. She had lost 62 kg (BMI 30.9kg/m^2) untill November 2009. From November 2009 to day, she began increasing weight (BMI 37.2kg/m^2), therefore, the band was adjusted three times with a total volume of 7 ml. She complainted 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

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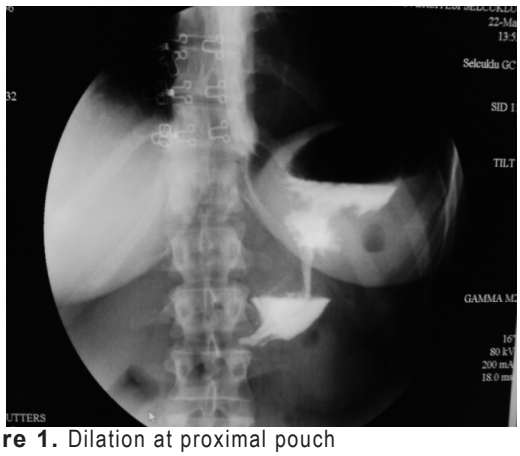

Figure 1. Dilation at proximal pouch

Figure 3. Removal of the gastric band

considered as band slippage and a revision operation was planned. There were adhesions between the stomach and anterior abdominal wall. Laparatomy revealed enlargement of proximal pouch. Despite lysis of the adhesions and laborious dissection, gastric band could not found. The band was disconnected to the port chamber. Investigation revealed that the band had migrated completely into the gastric lumen and had passed far down the terminal ileum (Figure 2). Enterotomy was performed and gastric band was taken out (Figure 3). Vertical band gastroplasty was performed. Postoperative course was unremarkable. Oral feeding was started onthe fifth day, and the patient was discharged on the seventh postoperative day.

CASE 2

A 36- years-old woman with morbid obesity (BMI 48.7kg/m^2) had a laparoscopic adjustable gastric band inserted in September 2006. Six month after the operation, she was admitted to our clinic with mild purulent discharge from the incision above the access port site and weight gain. The band was not able to adjusted. Fluoroscopic imaging revealed a leakage from junction of connection tube and port chamber. The port chamber was changed. The band was adjusted with a total volume of 5 ml. The discharge continued at intervals. She had lost 42 kg (BMI 32.7kg/m^2) within one year. After than, she began increasing weight (BMI 35.4kg/m^2). The band was adjusted two times with a total volume of 7 ml. But weight gain enhanced. We determined incomplete band migration at gastroscopic examination (Figure 4). The band was removed and mini-pouch gastric bypass was performed as revision operation. Postoperative course was unremarkable.

CASE 3

A 29-years-old man with morbid obesity (BMI 43.1kg/m^2) had a laparoscopic adjustable gastric band inserted in August 2007. He was admitted with painful swelling at the umblical 10 mm port entrance on postoperative third month. The abscess was determined at the trocar site and was drained. Purulent discharge kept on and he was treated with antibiotics. After one year from primary operation, a revision was performed with a diagnosis of chronic porto-cutaneous fistula. Operative findings are band migration, pouch dilatation and gastro-cutaneous fistula. The gastro-cutaneous fistula tract was excised and gastric band

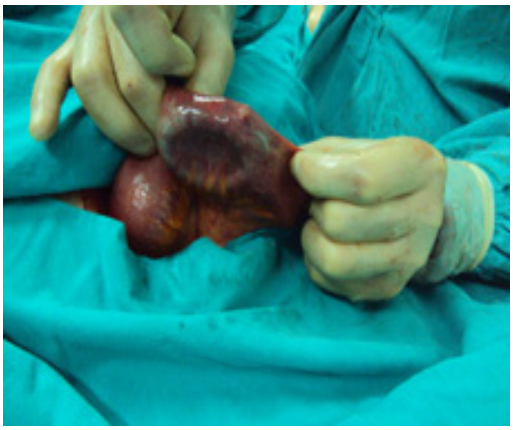

Figure 2. Gastric band into the terminal ileum

Figure 4. Gastroscopic view of the incomplet band migration

was removed. Vertical banded gastroplasty was performed as revisional procedure. Postoperative course was unremarkable.

DİSCUSSİON

Obesity has increased exponentially throughout the world in last few decads (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 wihin 5 years (13). Bariatric operations have been shown to effectively achieve and maintain weight loss (14-16) and to reduce obsity-relatedmorbidity 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 rerport 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 dilataion, esophaigal dialation, port problems, band migratations 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 intragastric 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 rejection 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 all (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 than 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.

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