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Spontaneous Reduction of the Prolapsed Stomach in a Case of Anterior Band Slippage after Laparoscopic Adjustable Gastric Banding

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Key words. Gastric banding ; obesity ; laparoscopy ; stomach prolaps.

Abstract. Band slippage is a common late complication after laparoscopic adjustable gastric banding. We present the first report in literature of a spontaneous reduction of the prolapsed stomach after band deflation in a case of anterior band slippage.

Introduction

Bariatric surgery has grown fast over the last 15 years. Today, the two main approaches to surgical treatment are bypass procedures or restrictive procedures, and among the restrictive procedures, laparoscopic gastric banding is the most frequent procedure worldwide. It has proven to be safe and effective in weight loss and reduction of comorbidity (1-6).

The most common late complications are pouch enlargement and band slippage with an incidence between 1 and 21% (6-10).

Band slippage is considered an acute complication. Cephalic prolapse of the stomach inferior portion causes caudal slipping of the band. According to the literature, urgent surgical treatment is necessary with repositioning or removal of the band, or conversion into another bariatric procedure (7-8, 11-13).

We present the first report in literature of a spontaneous reduction of the prolapsed stomach after band deflation in a case of band slippage.

Case report

In January 2005, we performed an uncomplicated laparoscopic gastric banding (pars flaccida technique ; type Vanguard®, Inamed Health) on a 47-year old woman who suffered from morbid obesity with severe comorbidity. The body mass index was 36. She successfully lost weight.

A refixation of the port was carried out in February 2006 because of an access problem.

In December 2006, the patient presented in the outpatient clinic with dysphalgia and severe vomiting. There were no other symptoms. Clinical examination of the patient revealed mild abdominal tendernsss in the epigastrum without palpable masses.

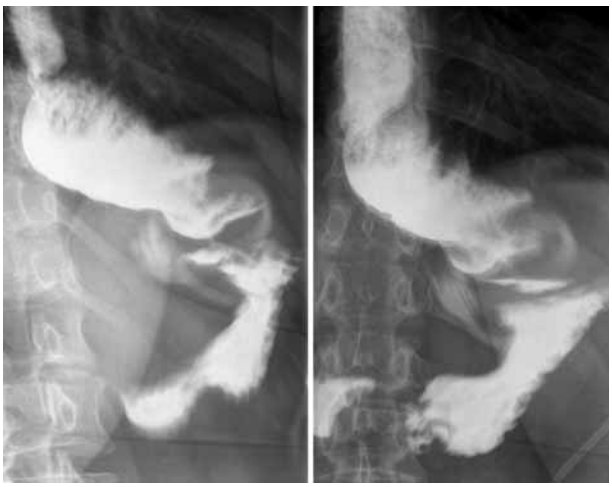

Fig. 1
Gastrografin swallow revealing an anterior slippage of the stomach.

Gastrografin swallow revealed an anterior slippage of the stomach (Fig. 1). The band was immediately deflated by needle puncture of the subcutaneous access port.

The following day, laparoscopic evaluation evidenced a spontaneous reduction of the prolapsed stomach (Fig. 2). There were no adhesions around the band. The band was refixed in place using three sero-serosal stitches. A contrast examination the first postoperative day showed a normal positioning of the gastric banding and no more dilation of the distal oesophagus (Fig. 3). Peroral feeding was started without any problem. The patient was discharged the same day. The band was insufflated successfully by needle puncture of the subcutaneous access port three weeks postoperatively.

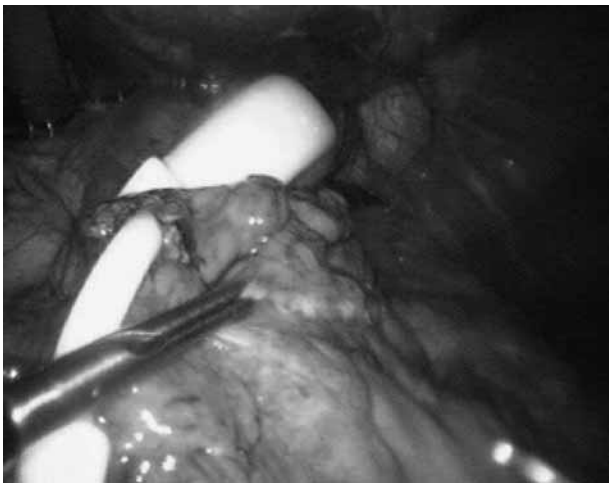

Fig. 2
Laparoscopic view of the spontaneous reduction of the prolapsed stomach.

Fig. 3
A contrast study on the first postoperative day showing a normal positioning of the gastric banding and no more dilation of the distal oesophagus.

Discussion

Morbid obesity is an important medical and economic issue. The prevalence is growing every year, in adults as well as in children. In the United States, obesity is the second leading cause of death after tobacco (7). The comorbidities are well known : diabetes mellitus, hypertension, hypertriglyceridaemia, hypercholesterolaemia, and increased risk of cardiovascular disease (14).

Among the restrictive procedures, laparoscopic gastric banding is now the most frequently performed procedure worldwide (7). It is proven effective in reduction of weight with an excess weight loss of 59% after 8 years (3-4). However, recent long-term follow-up publications show a late complication rate of 33% in 10 years follow-up, including band erosion (9,5%), pouch enlargement or band slippage (6,3%) and catheter- or port-related problems (6,7%). Each year adds 3-4% to the major complication rate, which contributes to the total failure rate. Failure is defined as an excess weight loss of < 25% or major reoperation. Five years failure rate is nearly 40% (9).

Band slippage and pouch enlargement are the most frequent late complications. It is important to distinguish these two different entities. Band slippage, most frequently seen in the second year of treatment, is a slippage of the gastric wall across the band with consequent caudal slippage of the band. Because the cross-sectional area at the level of the stomach body is larger than the level of its angle, complete stomach obstruction is always present (7, 12). Posterior slippage is the upward herniation of the posterior stomach wall through the band and must be distinguished from anterior slippage where the higher pressure in the upper pouch pushes the band downward over the anterior part of the stomach (8).

The complications of band slippage are gastric perforation, necrosis of the slipped stomach, aspiration pneumonia, upper gastrointestinal bleeding.

In both types of slippage, the patient presents with vomiting, regurgitation and food intolerance although radiological findings are different. In the posterior type of slippage, the enlarged pouch can be seen on plain abdominal film if it is filled with air posteriorly and inferiorly to the band. In both types of slippage, contrast studies will confirm the diagnosis. There are two major causes of band slippage. The first cause in case of posterior slippage is related to surgical techniques with intrabursal placement and in case of anterior slippage to insufficient anterior fixation, and disruption of anterior fixation sutures. Today, posterior slippage is less frequent because of the pars flaccida technique instead of the perigastric pathway (15). The second cause is increased pressure in the pouch by early band filling, early solid food, recurrent vomiting, carbonated drink consumption and overeating. It requires urgent surgical treatment in all the cases (100%) with reduction of the prolapsed stomach. According to the literature,

repositioning or replacement of the band was possible in 21-95% (8, 11, 15). In all the other cases, the band was removed, with delayed replacement, conversion to gastric bypass or no additional procedure as further treatment.

In our case, the cause of the slipping is not known. The prolapsed stomach spontaneously reduced after deflation of the band ; probably because the Vanguard type of band is a band of large diameter and creates a lot of space after deflation making spontaneous reduction possible.

Pouch enlargement is a concentric dilation of the pouch. The band is pushed down as a result of the high pressure exerted by the dilated pouch Complete obstruction is not associated and therefore, pouch enlargement should not be considered as a surgical emergency. Patient-related factors in pouch enlargement are chronic overeating and soda consumption. The most important surgeon-related factor is band overfilling which is associated with the development of pouch enlargement. Success rate of non surgical treatment is 77%. When medical treatment fails, band repositioning is the preferred surgical option.

In conclusion, laparoscopic gastric banding is effective in reduction of weight, although long-term results show a high complication and failure rates. This case report illustrates spontaneous reduction of the prolapsed stomach after band deflation in a case of anterior band slippage.

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