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Case Report
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Complications of a Mini-Gastric By-Pass: Perforated Anastomotic Ulcer and Internal Hernia

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Keywords

Single anastomosis gastric bypass; Mini ByPass; Internal hernia; BMI

Introduction

The Mini ByPass or ByPass with Omega anastomosis is a surgical procedure described for the management of obese patients in bariatric surgery as Sleeve Gastrectomy (SG), Roux-en-Y Gastric Bypass (RYGB), Biliopancreatic Diversion with duodenal switch (BPD) And Laparoscopic Adjustable Gastric Band (LAGB). All of these techniques can present complications: ulcer, internal hernia, deficiencies, among others.

This is a case about complications of mini Bypass followed by a review of the literature on the Mini ByPass (MBP) using PubMed.

Case Presentation

This is a 29-year-old patient who had a MBP in 2015 in another care center. She has no particular background. Its weight history is as follows: maximum weight 157 kg for 1.74 m (Body Mass Index (BMI) 51.9 kg/m^2). Weight gain is attributed to bulimia. At the time of bariatric management, the patient also had insulin resistance and polycystic ovary syndrome. The patient consults our nutritionist in July 2016 for management almost 2 years of bariatric surgery.

It should be noted that the patient made a Helicobacter pylori ulcer within 3 months after the procedure. It is discovered during this consultation, a major anorexia. The patient weighs 62 kg (BMI=20.5 kg/m^2). Psychiatric care is initiated. The management allows maintaining the weight stable despite induced daily vomiting.

In November, the patient is hospitalized for epigastric pain, gastroesophageal reflux and food intolerance and repeated vomiting. The hospitalization consists of the installation of a nasogastric sonde avoiding vomiting. Gradual resumption of feeding with finally 3 meals a day and disappearance of anxiety associated with food. The patient presents herself at emergency for epigastric pain and fever in January 2017.

The patient had epigastric sensitivity, a fever at 38.7°C. The blood test returned to normal liver function, CRP at 186 mg/L and white cell at 14 G/L. Emergency physicians refer the patient to a gynecological consultation where nothing is revealed. A scanner is requested and shows a pneumoperitoneum (Figure 1), infiltration of the gastro-jejunal anastomosis (Figure 2) and a suspicion of internal hernia. Faced with the clinical exam, it is decided to operate the patient.

Figure 1: Scanner with pneumoperitoneum (arrow).

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Figure 2: Scanner showing the infiltration of the gastro-jejunal anastomosis (arrow).

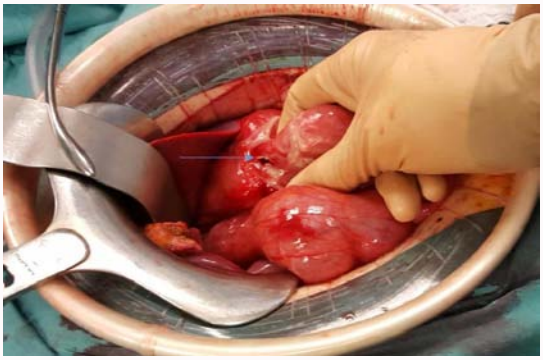


Photo 1: Perioperative vision of the perforated ulcer (arrow).

The surgeon performs a laparotomy; it showed a perforated ulcer of the gastrojejunal anastomosis (Photo 1).

There is also a rotation of the common loop around the biliary loop (Schema 1).

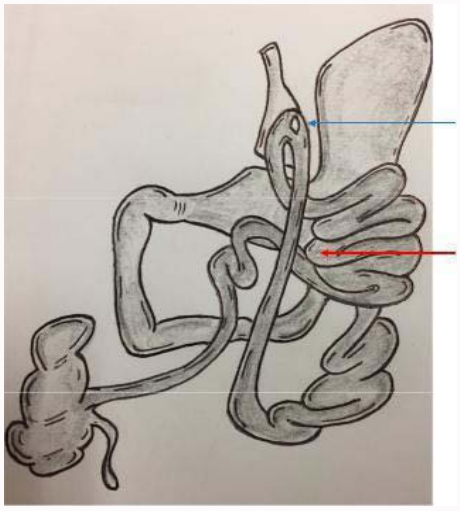
The intervention will consist in a suture of the ulcer, reduction of the internal hernia. A nasogastric sonde was placed under operative control and closure of the breach. The biliary loop measuring 2 meters and the common loop 2.75 meters. After the surgery, the patient was discharged on day 7 postoperatively with antibiotics for 15 days and 6 weeks of antifungal treatment. At 4 months of surgery, the patient is well, has no transit disorder and is taken care of by our nutritionist to assess dietary behavior.

Discussion

This clinical case illustrates possible complications of MBP. These are known complications and are described in bariatric surgery.

The MBP is a newer technique than the 4 recommended by the HAS (Haute Autorité de Santé French Health Authority) [1] (LAGB, RYGB, BPD and SG). The literature makes it possible to define the morbidity and mortality of this technique and to determine whether it can be considered for patients as an alternative to other techniques.

In the literature, the MBP has been described for about ten years. The morbidity of the technique varies between 5.5% [2] and 10.3% [3]. A review of the literature makes it possible to define the results of the procedure. As for the loss of excess weight, an article comparing 19 MBP to 47 RYGB [4] found a loss of excess weight of 70.4% against 57.1% at 2 years. In the article by Chevallier et al. [2], there is a loss of BMI excess of 71.6 +/- 27% after 5 years of follow-up.



Schema 1: Peroperative findings (blue arrow ulcer, red arrow hernia).

In a review of the literature of 2013 [5], the loss of excess weight at one year varies from 55% to 88% and between 66 and 80% according to the articles.

Results on weight change are comparable to other procedures.

With regard to complications, internal hernias are known and described complications for the RYGB. In the MBP, cases of internal hernia in the literature are rare and only clinical cases of Ianelli et al. [6] and Genser et al. [7]. This is the third case describing this complication.

Immediate postoperative complications (30 postoperative days) are mainly the need for conversion for hemorrhage, splenic wound. Anastomotic fistulae range from 0.5% to 2.3% in the review of the literature of Mahawar et al. [5]. The study by Chevallier et al. [2] finds 6 fistulae in 1000 operations. The study by Carbajo et al. [8] describes a rate of 0.83% fistulae in 1200 patients.

Anastomotic ulcers are described from 0.6 to 8% in the review of the literature of 2013 [5]. There is a rate in the other subsequent articles of 0.5% [8] to 4% [3]. Of the 1000 patients in the review of Chevallier et al. [2], there is a 2% ulcer rate with 2 cases of perforated ulcer.

Patients had severe iron deficiency anemia requiring iron perfusion in 1.2 [8] to 4.9% [5]. In the article by Carbajo et al. of 1200 patients, 30% of patients required oral ferric supplementation.

Cases of malnutrition have been described in 1.6% in the article by Chevallier et al. [3], 1.1% [8] and 1.28% in the review of the literature of 2013 [5].

Cases of biliary reflux have been described in 0.7% to 2% [2,3,8], this rate is equivalent in the review of the literature (0.06% to 3.1%) [5].

Finally, some patients had to have an MBP conversion for uncontrollable biliary reflux. 1.6% in the article by Chevallier et al. [3] and 0.9% in another article [2], all were converted to RYGB.

The improvement in comorbidities was also assessed with a "resolution" of diabetes and a normal level of glycated hemoglobin and blood glucose [9]. Chevallier et al. [2] shows a rate of 85.7% resolution at 2 years. In other articles, the rate varies between 70 and

90% [5].

For other comorbidities, there is an improvement in sleep apnea, hypertension, reflux, hypercholesterolemia and urinary incontinence.

Regarding the quality of life of the patients, there is an improvement of the quality of life in the study of Chevallier et al. [3] compared to the control group with a GIQLI score of 110.3 *vs*. 92.5 (p=0.001). The same results are found in the review of the literature of Mahawar et al. [5].

In conclusion, the MGB is a recent technique that shows results that seems similar to other bariatric surgery techniques recommended by HAS. As with any surgery, there are complications, but the morbidity and mortality rate does not seem to be superior to other techniques. The MGB is more and more realized in France and one must know the technique and know to anticipate the possible complications. Furthermore, a comparative control test is necessary on a large scale is necessary to be able to assert the possibility of realization in the same way as the RYGB.

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