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SHORT COMMUNICATION

Total mesh migration into the gastric lumen after vertical banded gastroplasty: A case report

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ABSTRACT

Vertical banded gastroplasty (VBG) is a remote bariatric restrictive procedure, more common in 1980s and initial 1990s. Many patients still possess this anatomy with its inherent complications. The reoperation rate for failure/complications reported in long-term studies is approximately 56 %, sometimes the surgical revision is technical complex and invasiveness. Sleeve gastrectomy (SG) has been at first used to revise failed restrictive procedures. This study takes in vision a patient which was operated of VBG 15 years ago. This patient underwent a Roux-n-Y Gastric Bypass because of total intra luminal mesh migration. In this case the mesh migration caused a gastric lumen stenosis, it was necessary a complex revision surgical operation to remove the tight ring.

Keywords: vertical banded gastroplasty, revision surgery, mesh migration, Roux-n-Y, Gastric Bypass

The aim of the case report

The aim of this study is to describe the severity of the most frequent complication following the vertical banded gastroplasty and the role of the surgical revision to improve the symptomatology allowing weight loss.

1. INTRODUCTION

Vertical banded gastroplasty by Mason (VBG) is a purely restrictive procedure done in laparotomy in which the upper part of the stomach is partitioned by a vertical staple line with a tight outlet wrapped by a prosthetic mesh or silastic band [1-3]. This procedure was used in the 1980s and early 1990s, even if some-one continued to practice it until the 2000s (Figure 1) [1, 4, 5]. In essence, the vertical banded gastroplasty consists in placement of a silastic ring or a custom- made mesh to create the 'outlet' and to prevent the 'stretch' effects improving the weight loss [2, 6, 7]. Despite its initial short-term success, weight regain may be related to gastric pouch dilatation. Many long-term studies did not describe sustained weight loss. In the same time occurred many complications such as: outlet stenosis in a third of patients leading to intractable vomiting and food intolerance, staple disruption, pouch dilation with or without worsening of gastrointestinal reflux, and band erosion have been reported [2, 4, 7]. Sleeve gastrectomy (SG) is a good alternative for revision surgery in patients with regain weight after VBG. Endoscopic dilation of out-let stenosis usually had minimal durable effect with recurrence of stenosis. In few cases with partially or completely eroded ring, endoscopic removal is possible with endoscopic scissor transection or argon coagulation [1-3, 7].

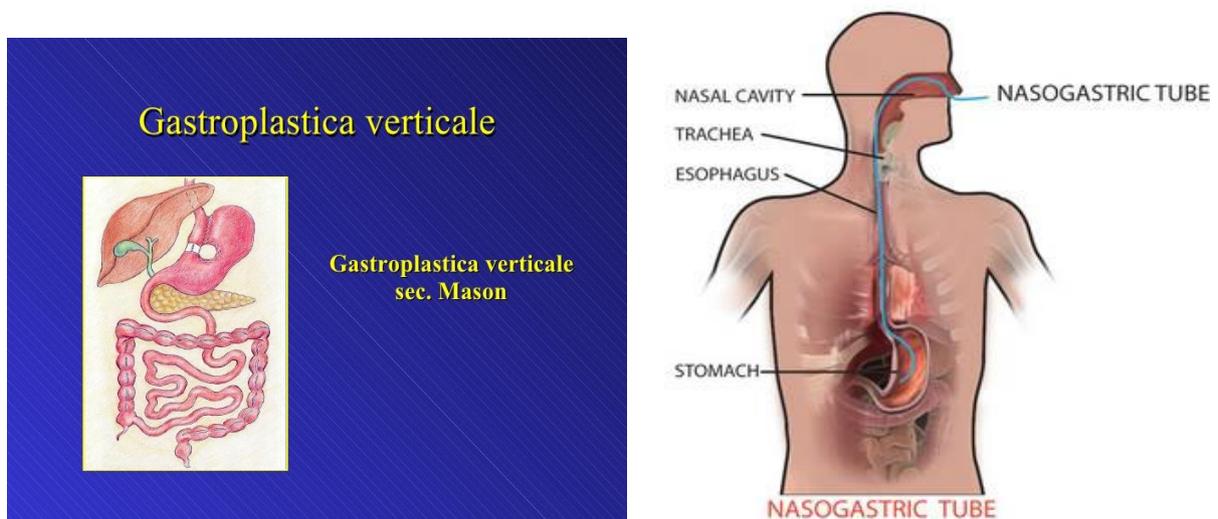


Figure 1. Mason Vertical banded gastroplasty (VBG). Gastric nose tube.

2. CASE PRESENTATION

A 51-year-old woman underwent laparotomy VBG for morbid obesity (130 kg, 162 cm BMI 49.54 kg/m²) 15 years ago (2003). A year later (2004), she underwent another laparotomy sigma-re-section in urgency, for acute perforated diverticulitis complicated with peritonitis. The patient subsequently had a progressive weight loss until reaching a minimum weight of 68 kg (BMI 25.91 kg/m²) over a few years. Then she reports gradual regain of the weight, until reaching 76.4 kg (BMI kg/m²), this weight has been stable in the last 4 years. From 2014 she complains frequent abdominal colic associated with postprandial swelling, nausea, vomiting because of solid food intolerance. EGDS (December 2017): documents a constriction of the

gastric tube at the level of the body and gastric fundus with mucosal erosion due to the decubitus of the band (Figure 2).

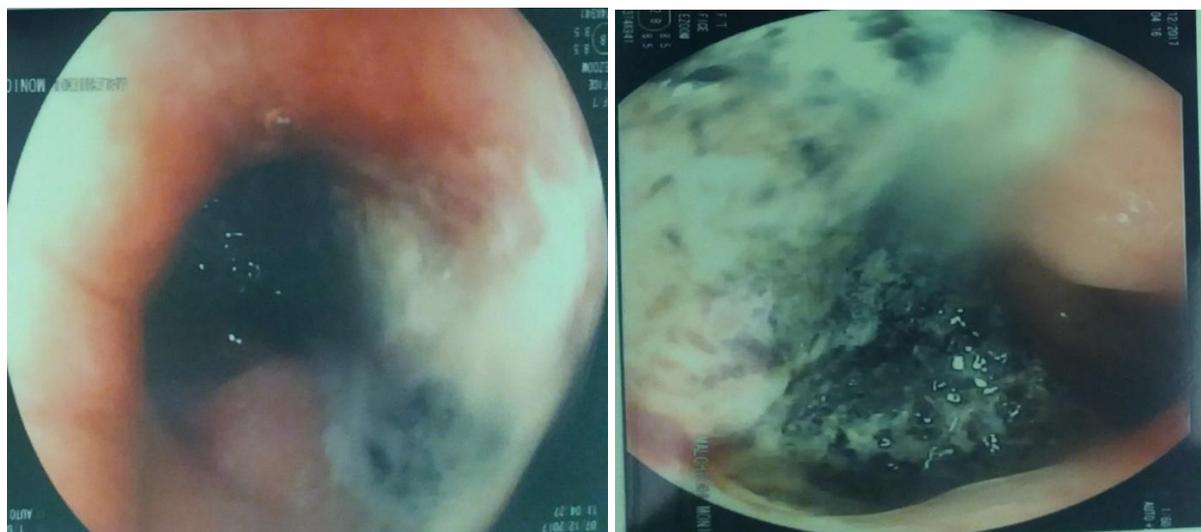


Figure 2. Esophagogastroduodenoscopy: Mesh migration into gastric lumen.

Upper Rx Digestiv Tract with Gastrografin (December 2017): restriction at the level of the gastric body-fundus during the passage of gastrografin (Figure 3).

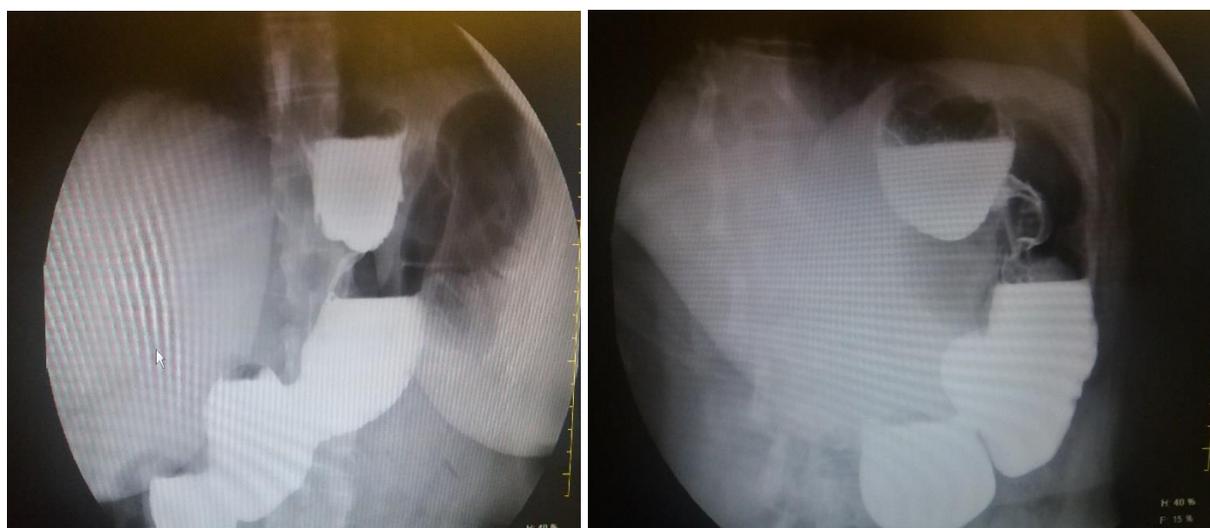


Figure 3. Pre-Operation Upper Rx Gastric Tract with Gastrografin: difficult passage of gastrografin.

Therefore, after obtained the surgical informed consent from the patient, we decided to perform a xifo subumbilical laparotomy due to previous surgery.

3. RESULTS

Different studies have described that all patients undergoing re-vision surgery for reflux, intolerance to oral intake, or anatomic complications had at least partial or complete resolution of their symptoms at date of last follow-up control. There is no difference in symptom resolution based on surgical approach [8-10]. The patient was operated in February 2018. The operation lasted 4 hours, there were numerous adhesions due to previous interventions. We resected the part of the stomach body containing the prosthesis and packaged a gastricileal anastomosis converting VBG previously performed in Roux-n-Y Gastric Bypass. We placed a gastric nose tube downstream of anastomosis. The hydro pneumatic test of anastomosis was negative. Exploring the resected gastric body portion, the prosthesis has completely eroded the gastric wall with totally migration inside the stomach lumen causing stoma stenosis (Figure 4).

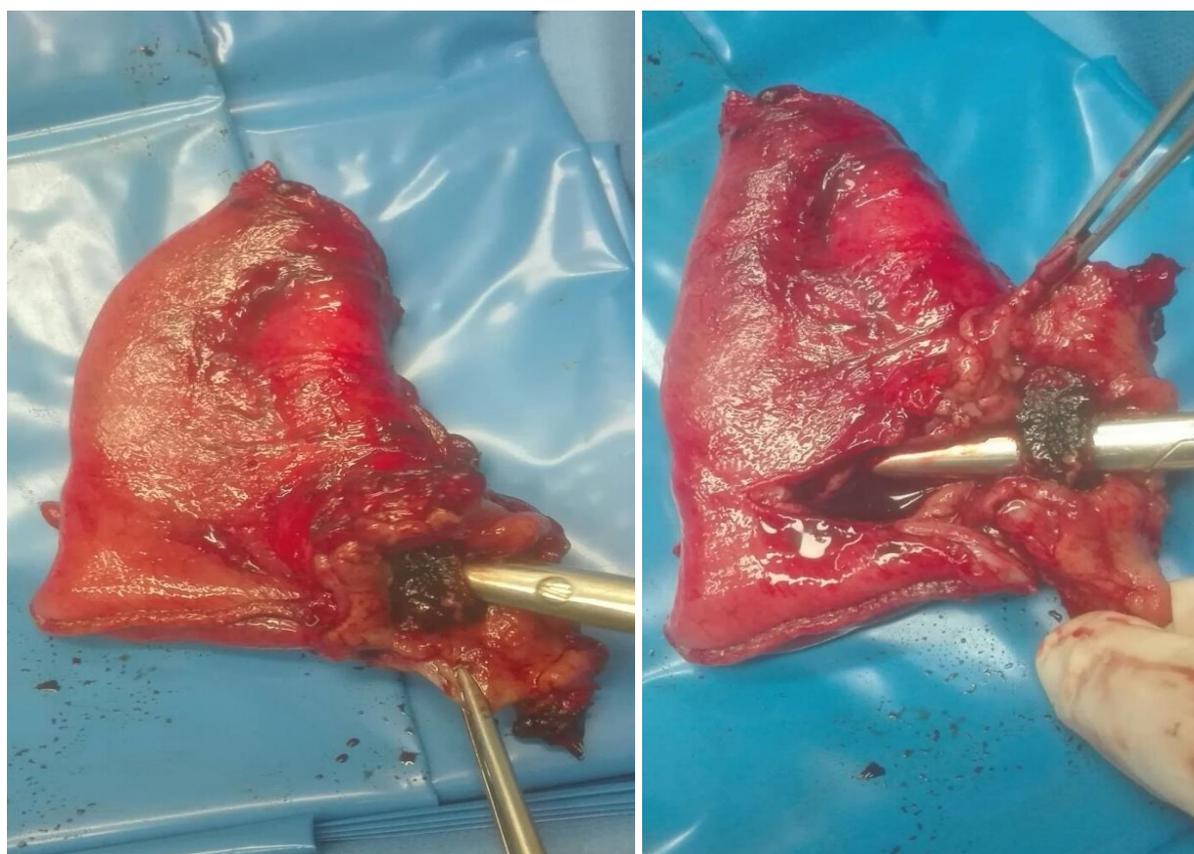


Figure 4. Portion of the resected gastric body containing the prosthesis totally migrated into the gastric lumen conditioning stoma stenosis.

In 4-th post-operative day a new Rx upper gastric tract with gastrografen control was performed, which has described: regular passage of gastrografen through the performed anastomosis, without extraluminal spreading, no stagnation or reflux differently of the preoperative check (Figure 5).

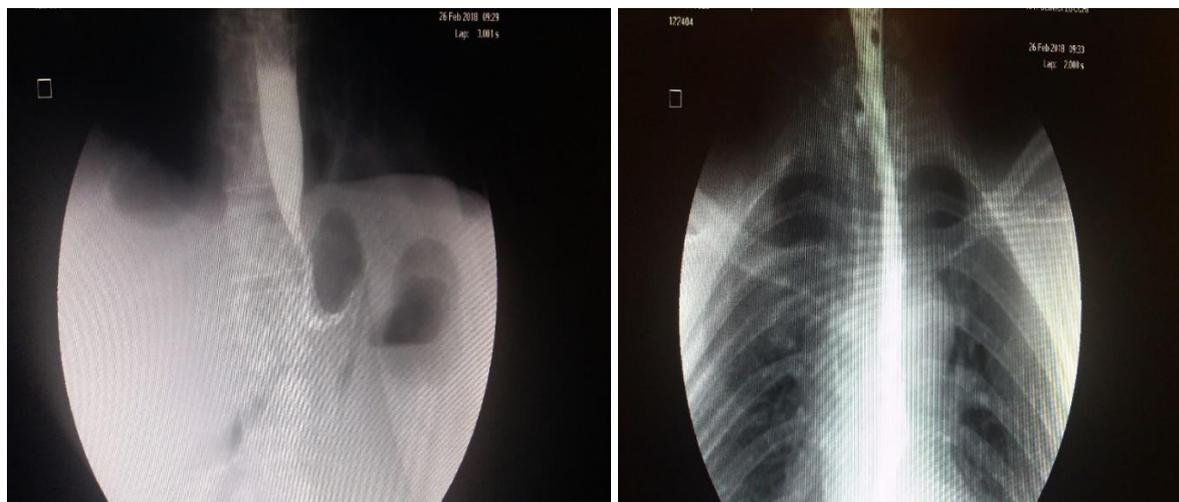


Figure 5. Post-Operation Images of Upper Rx Gastric Tract with Gastrografin: regular passage of gastrografin through the anastomosis.

In 5-th postoperative day the patient started drinking and feeding with liquid diet without problems. Hospital stay was regular. The patient went home after 7 days with the appropriate indications. The patient performed periodic follow-up checks at our center, after 1, 3 and 6 months. The patient did not manifest the previous or other new symptoms, the weight varied from 76.4 kg to 74.5 kg - > 73 kg - > 70 kg, BMI 26.67 kg/m² (last control after 6 months).

4. DISCUSSION

Many patients with VBG will require revision or conversion surgery for insufficient weight loss and/or complications [1, 7]. The most common cause of weight regain in VBG is staple-line disruption and pouch dilatation [1, 6, 7]. Band erosion incidence has been recognized as a potential late complication and estimated at 0,4 % to 3%. The average interval to mesh erosions has been reported at 3 to 4 years [1].

The incidence of revision surgery over a 12 year period after initial VBG was found to be very high (56 %). This contrasted with the incidence of revision surgery after initial RYGB over a 12 year period which was only 12% [2, 11]. Failed VBG is usually managed with conversion to another bariatric procedure with a favor of conversion to RYGB, laparoscopic sleeve gastrectomy (LSG), single-anastomosis mini gastric by-pass (SAGB), and duodenal switch (DS) [3, 12, 13]. Up to now, there is no consensus regarding the best choice for revision surgery after a failed restrictive bariatric surgery [13, 14].

Initially it was considered as the first approach to the LSG, but many studies reported frequent unforgiving leak at the upper staple lines [5, 15-17], such as a paper by Himpens et al [5, 15] who reported a similar outcome that included 3 mortalities. Recently, SAGB was reported to be an alternative procedure for RYGB with a safer profile, better weight loss and result [7, 16]. So revision surgery after a failed VBG could be selected according to the surgeon's experience, and patient's weight status for revision surgery [1].

The patient at the visit was satisfied with the weight achieved following the intervention of VBG, which is stable for many years but it complains about functional problems.

So revision surgery is necessary not for the regained weight but mainly for the functional symptomatology complications caused by the prosthesis erosion, which conditioned a stoma stenosis documented also by the instrumental investigations. In our case, the solution was the surgical removal with open procedure because the patient had 2 laparotomy incision in the past. We performed a Roux-n-Y Gastric bypass.

5. CONCLUSION

VBG conversion, even in more experienced hands, is a very complex procedure that bears a high rate of complications and it can be undertaken when the risk: benefit ratio is clear to both the surgeon and the patient [5, 17]. Therefore, gastric bypass should be the first choice to prevent complication resulted from the remaining for failed VBG. In our experience, after tightened Stoma Stenosis caused by complete migration of the prosthesis into gastric lumen following VGB, we judged it fair and safety for the patient to perform a laparotomy gastric resection with consequent removal of the prosthesis and packaging a Roux-n-Y gastric bypass.

References

- [1] Ece İ, Yılmaz H, Şahin M. (2015). Migration of mesh into gastric lumen: A rare complication of vertical banded gastroplasty. *Ulus Cerrahi Derg* 32: 212-213.
- [2] Van Gemert WG, van Wersch MM, Greve JW, Soeters PB (1998). Revisional surgery after failed vertical banded gastroplasty: restoration of vertical banded gastroplasty or conversion to gastric bypass. *Obes Surg* 8: 21-28.
- [3] Almalki OM, Lee WJ, Chen JC, Ser KH, Lee YC, et al. (2018) Revisional Gastric Bypass for Failed Restrictive Procedures: Comparison of Single-Anastomosis (Mini-) and Roux-en-Y Gastric Bypass. *Obes Surg* 28: 970-975.
- [4] Mason EE (1982) Vertical banded gastroplasty for obesity. *Arch Surg* 117: 701-706.
- [5] David MB, Abu-Gazala S, Sadot E, Wasserberg N, Kashtan H, et al. (2015) Laparoscopic conversion of failed vertical banded gastroplasty to Roux-en-Y gastric bypass or biliopancreatic diversion. *Surg Obes Relat Dis* 11: 1085-1091.
- [6] Lara JJ, Murray L, Carter R, Stuart R, Lean ME (2005) Weight changes after vertical banded gastroplasty. *Scott Med J* 50: 58-60.
- [7] Cohen R, Uzzan B, Bihan H, Khohtali I, Reach G, et al. (2005). Ghrelin levels and sleeve gastrectomy in super super-obesity. *Obes Surg* 15: 1501-1502.
- [8] Gray KD, Moore MD, Elmously A, Bellorin O, Zarnegar R, et al. (2018) Perioperative Outcomes of Laparoscopic and Robotic Revisional Bariatric Surgery in a Complex Patient Population. *Obes Surg* 28: 1852-1859.

- [9] Arapis K, Tammaro P, Parenti LR, Pelletier AL, Chosidow D, et al. (2016) Long-term results after laparoscopic adjustable gastric band-ing for morbid obesity: 18-year follow-up in a single university unit. *Obes Surg* 27: 630-640.
- [10] Carandina S, Tabbara M, Galiay L, Polliand C, Azoulay D, et al. (2016) Long-term outcomes of the laparoscopic adjustable gastric banding: weight loss and removal rate. A single center experience on 301 patients with a minimum follow-up of 10 years. *Obes Surg* 27: 889-895.
- [11] Van Gambert WG, Greve JWM, Soeters PB (1997) Long-term results of vertical banded gastroplasty: Marlex versus Dacron baning. *Obes Surg* 7: 128-135.
- [12] Dapri G, Cadiere GB, Himpens J (2009) Laparoscopic conversion of adjustable gastric banding and vertical banded gastroplasty to duodenal switch. *Surg Obes Relat Dis* 5: 678-683.
- [13] Mognol P, Chosidow D, Marmuse JP (2004) Laparoscopic conver-sion of laparoscopic gastric banding to Roux-en-Y gastric bypass: a review of 70 patients. *Obes Surg* 14: 1349-1353.
- [14] Lee WJ, Ser KH, Lee YC, Tsou JJ, Chen SC, et al. (2012) Lap-a-roscopic Roux-en-Y vs. mini-gastric bypass for the treatment of morbid obesity: a 10-year experience. *Obes Surg* 22: 1827-1834.
- [15] Elazary R, Hazzan D, Appelbaum L, Rivkind AI, Keidar A (2009) Feasibility of sleeve gastrectomy as a revision operation for failed silastic ring vertical gastroplasty. *Obes Surg* 19: 645-649.
- [16] Suter M, Ralea S, Millo P, Allé JL (2012) Laparoscopic Roux-en-Y Gastric bypass after failed vertical banded gastroplasty: a multi-center experience with 203 patients. *Obes Surg* 22: 1554-1561.
- [17] Mognol P, Chosidow D, Marmuse JP (2007) Roux-en-Y gastric by-pass after failed vertical banded gastroplasty. *Obesity Surgery* 17: 1431-1434.