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SURGERY FOR OBESITY AND RELATED DISEASES

Video case report

Laparoscopic conversion from mini gastric bypass/1 anastomosis gastric bypass to Roux-en-Y gastric bypass for perforated marginal ulcer: video case report

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In 1997, Rutledge [1] introduced a new bariatric procedure consisting of a single anastomosis gastric bypass, which he named a mini gastric bypass (MGB).

In 2002, Carbajo et al. [2] proposed a technical variation to further prevent gastroesophageal bile reflux. They called their procedure 1 anastomosis gastric bypass (OAGB) or, in Spanish, *bypass gastrico de una anastomosis* [2].

In 2014, the name MGB/OAGB was first used to define this surgery [3]. Recently, several papers have demonstrated the effectiveness and safety of MGB/OAGB as a revisional procedure after failed restrictive surgery [4,5]. However, even if MGB/OAGB is a reliable primary and revisional procedure, no intervention is free of complications; in an Italian study of 974 consecutive cases, the rate of marginal ulcer was 1.7% [6].

We present a case of a perforated marginal ulcer 3 months after uneventful revisional MGB/OAGB, which required emergency conversion to a traditional Roux-en-Y gastric bypass (RYGB).

Case report

We present a 48-year-old patient with obesity, a body mass index of 38 kg/m^2, and hypertension who had undergone laparoscopic sleeve gastrectomy (LSG) in 2016 at a body mass index of 46 kg/m^2. The patient was converted to MGB/OAGB because of weight regain and the persistence of hypertension after LSG. The conversion procedure was uneventful and followed a previously described technique for revisional MGB/OAGB after restrictive procedures [4]. The patient attended postoperative follow-up appointments at postoperative days 7, 15, and 30, and did not complain of vomiting, reflux, or other gastrointestinal symptoms.

In postoperative month 3, the patient contacted our center by telephone complaining of mild chronic epigastric pain; proton pump inhibitors were prescribed, and the patient was invited to attend the outpatient clinic the day after the call. After a clinical examination, the patient was readmitted owing to acute pain, and a computed tomography (CT) scan with oral and intravenous contrast was performed. The CT showed a perforation of the gastrointestinal anastomosis with an intrabdominal leak of oral contrast (Fig. 1). The patient was transferred to the operating room and a laparoscopic emergency surgery was performed. A classic 6-port trocar access was used; after the introduction of the scope, a clear perforation of the gastrojejunal anastomosis was visualized, with a large intraabdominal collection of bile and fibrin. The small bowel appeared inflamed, but the efferent loop was followed backward to the Treitz ligament and the afferent loop was inspected till the cecum, and no signs of another perforation were found. The distal part of the gastric pouch, together with the anastomosis and the proximal tracts of the efferent and afferent loop, were resected. A gastrointestinal tract was then fashioned using a classic Roux-en-Y reconstruction; a 100-cm length was chosen for the alimentary limb. Mesenteric defects were carefully closed with continuous sutures, and nonabsorbable stiches were used for the Petersen's. A methylene blue test

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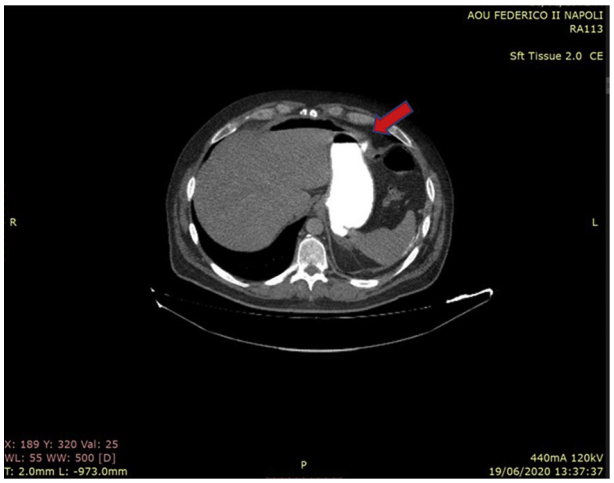

Fig. 1. Abdominal CT showing leak of oral contrast into the abdominal cavity. CT = computed tomography.

was carried out to check for any leak from the new gastrojejunal anastomosis, and an intrabdominal washout with saline solution was performed before ending the operation with the placement of 3 drains. Postoperative days (PODs) 1 and 2 were uneventful, but on POD 3 the patient complained of epigastric pain and another CT was performed. No signs of perforation or bleeding were detected, and an oral liquid diet was started on POD 4. Discharge was scheduled for POD 10, after removal of all drains and the beginning of a semisolid diet. A histologic examination confirmed the diagnosis of an acute perforation of a marginal ulcer.

Discussion

Revisional surgery is increasingly in demand in bariatric centers, especially after failed restrictive surgery. Recent evidence has shown that OAGB, as a revisional intervention after failed restrictive surgery, achieves outcomes comparable to RYGB with a simpler and safer technique [7,8]. A flawless surgical technique is mandatory for revisional MGB/OAGB to avoid a short gastric pouch or long biliopancreatic limb [9]. In our case, during the first intervention of conversion from LSG to MGB/OAGB, the sleeved stomach was refashioned and all of the small bowel was measured before the decision of a biliopancreatic limb of 210 cm, to leave at least 300 cm of the common limb. Despite the accuracy of the surgical technique, the patient developed a marginal ulcer. Surprisingly, this lesion rapidly evolved to perforation and choleperitonitis. As recently demonstrated [10], laparoscopic conversion to RYGB is safe and effective to treat these rare cases of postoperative complications after revisional and primary MGB/OAGB. In our case, the intervention was carried out laparoscopically without intraoperative complications; a complete resection of the gastrojejunal anastomosis was necessary, and a 1-m length was chosen for the alimentary limb to avoid reflux and excessive malabsorption.

In conclusion, marginal ulcer perforation is a noncommon event after MGB/OAGB, but skilled surgeons working in high-volume centers are required to rapidly identify and manage this complication.

Acknowledgments

The subject included in the study signed specific informed consent**.** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at https://doi.org/10.1016/j.soard.2020.09.033.

References

[1] Rutledge R. The mini-gastric bypass: experience with the first 1,274 cases. Obes Surg 2001;11:276–80.
[2] Carbajo M, Garcia-Caballero M, Toledano M, Osorio D, Garcia-Lanza C, Carmona JA. One-anastomosis gastric bypass by laparoscopy: results of the first 209 patients. Obes Surg 2005;15(3):398–404.
[3] Musella M, Milone M. Still "controversies" about the mini gastric bypass? Obes Surg 2014;24(4):643–4.
[4] Musella M, Bruni V, Greco F, et al. Conversion from laparoscopic adjustable gastric banding (LAGB) and laparoscopic sleeve gastrectomy (LSG) to one anastomosis gastric bypass (OAGB): preliminary data from a multicenter retrospective study. Surg Obes Relat Dis 2019;15(8):1332–9.
[5] Debs T, Petrucciani N, Kassir R, et al. Laparoscopic conversion of sleeve gastrectomy to one anastomosis gastric bypass for weight loss failure: mid-term results. Obes Surg 2020;30:2259–65.
[6] Musella M, Susa A, Greco F, et al. The laparoscopic mini-gastric bypass: the Italian experience: outcomes from 974 consecutive cases in a multicenter review. Surg Endosc 2014;28:156–63.
[7] Almalki OM, Lee WJ, Chen JC, Ser KH, Lee YC, Chen SC. Revisional gastric bypass for failed restrictive procedures: comparison of single anastomosis (mini-) and Roux-en-Y gastric bypass. Obes Surg 2018;28(4):970–5.
[8] Chiappetta S, Stier C, Scheffel O, Squillante S, Weiner RA. Mini/one anastomosis gastric bypass versus Roux-en-Y gastric bypass as a second step procedure after sleeve gastrectomy-a retrospective cohort study. Obes Surg 2019;29(3):819–27.
[9] Pujol Rafols J, Al Abbas AI, Devriendt S, et al. Roux-en-Y gastric bypass, sleeve gastrectomy, or one anastomosis gastric bypass as rescue therapy after failed adjustable gastric banding: a multicenter comparative study. Surg Obes Relat Dis 2018;14(11):1659–66.
[10] Kassir R, Petrucciani N, Debs T, Juglard G, Martini F, Liagre A. Conversion of one anastomosis gastric bypass (OAGB) to Roux-en-Y gastric bypass (RYGB) for biliary reflux resistant to medical treatment: lessons learned from a retrospective series of 2780 consecutive patients undergoing OAGB. Obes Surg 2020;30(6):2093–8.