

Use of Eso-sponge® device as a therapeutic alternative in high surgical risk patients with anastomotic dehiscence after gastric bypass

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Abstract

Anastomotic leak is one of the most frequent complications after Roux-en-Y gastric bypass. In recent years, endoscopic repair of the defect by means of devices such as self-expandable prostheses or endoluminal clips has begun to be considered as a therapeutic option. Likewise, endoluminal vacuum therapy has begun to be used in patients with upper intestinal leaks, although its application in anastomotic leak after gastric bypass is very limited in the literature. Here we present the

case of a high-risk surgical patient with anastomotic fistula after Roux-en-Y gastric bypass treated with endoluminal vacuum therapy.

Keywords:

- Roux-en-Y gastric bypass
- Anastomotic leak
- Endoluminal vacuum therapy

Introduction

Anastomotic leak is one of the most frequent complications after performing a Roux-en-Y Gastric Bypass (RYGB), with an incidence of around 1.7-8.26% depending on the series ^(1,2). In large defects, it is often necessary to reintervene and perform a new anastomosis; however, in recent years, endoscopic management has begun to be considered as an option in small defects or those with high surgical risk. This management is mainly carried out with the placement of prosthesis, clips or fibrin sealants ⁽³⁾. Recently, endoluminal vacuum therapies have begun to be applied in upper intestinal leaks, with good results ^(4,5).

Below, we present the case of a high-risk surgical patient with anastomotic leak after BGYR treated with endoluminal vacuum therapy.

Material and methods

We present the case of a 55-year-old female patient with no personal history of interest, who underwent surgery for obesity using the BGYR technique due to a BMI of 40.

During the first three postoperative days, the patient presented vomiting and hypotension up to 73/35, so abdominal computed tomography (CT) was requested. The CT scan showed findings compatible with high-grade intestinal obstruction probably secondary to stenosis of the alimentary limb anastomosis.

The patient underwent emergency surgery, where the obstruction of the alimentary limb up to the jejunojejunal anastomosis was confirmed due to kinking of this limb over the anastomosis and its mesentery. The affected segment was resected and a new anastomosis was performed, which showed good passage.

On the 5th day after the reintervention, the patient presented desaturation in spite of the high-flow mask, so CT angiography was performed, with findings compatible with pulmonary thromboembolism in the right upper and lower pulmonary lobes, as well as bilateral pleural effusion. Thoracentesis of the effusion was performed with fluid outflow compatible with empyema.

On the 9th day after the reintervention, due to the increase of the effusion and the suspicion of subphrenic abscess, a new

abdominal CT scan was requested, in which a collection was observed communicating with the upper face of the intestinal bypass limb and extending caudally in the epigastric region, hepatic and subphrenic space. There is also a pneumoperitoneum chamber larger than expected given the surgical time. These findings correspond to a leak of the gastro-jejunal anastomosis.

Results

In view of the high surgical risk to another reintervention, endoscopic management with placement of endoluminal vacuum therapy device (Eso-sponge®) is decided. Eso-sponge® was replaced every 48h, and complete closure of the leak was observed after 7 replacements (Figures 1 and 2). The intra-abdominal collection was drained percutaneously with good response. After 56 days of hospitalization, the patient was discharged.

At the 3-month review, the patient was in good general condition, although she was walking with a walker. She is tolerating solids and has experienced a weight loss of 17 kg.

Discussion

Endoscopic management of anastomotic leak is an increas-

ingly common therapeutic alternative in our environment, reserved mainly for small leaks. According to a meta-analysis by Rogalski P. et al, the most commonly used endoscopic therapies to date were evaluated, finding an overall effectiveness of 92%. They found a closure rate of 96% with the use of prosthesis, 67.1% with metallic clip devices, and 92-100% with fibrin glue ⁽³⁾. However, these last two therapies are only reserved for very small leaks.

The use of endoluminal prostheses is an effective therapy for the treatment of anastomotic leaks, however, they present a migration risk of between 23% and 41% ^(3, 6). If endosuture devices are available, the migration rate decreases ⁽⁶⁾.

Given these data and the high surgical risk of the patient, it was decided in this case to place an endoluminal vacuum device. This decision was based on the absence of endosuture devices, with the consequent risk of migration of a prosthesis, as well as the size of the leak in question.

The literature on the use of endoluminal vacuum devices in gastrojejunal anastomosis leaks after gastric bypass is very limited, relegating the use of these devices mainly to esophageal fistulas ⁽⁵⁾, although their applications are expanding ⁽⁴⁾. In the work presented by de Armas Conde M. et al, a situation similar to the one presented here is treated with vacuum therapy with good results ⁽⁷⁾. In the case series presented by Mencia MA. et al, another example of anastomotic leak after BGYR treated with vacuum therapy is reported ⁽⁸⁾.

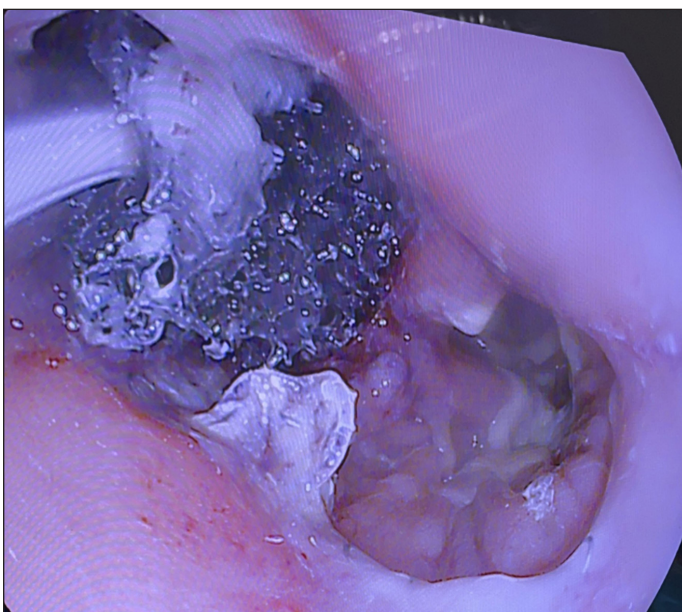


Figure 1: placement of the Eso-sponge® device in the anastomotic leak cavity.



Figure 2: granulation tissue on previous leak following 7 Eso-sponge® device replacements.

Clinical trials have also been performed in animal models with gastrojejunal anastomotic leak after BGYR with a good resolution rate ⁽⁹⁾.

Conclusions

The use of endoluminal vacuum therapy for the treatment of leak in patients at high surgical risk is a useful tool in the management of this complication and a viable alternative to surgical reintervention.

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