Therapy of Stenosis after Sleeve Gastrectomy: Stent and Surgery as Alternatives – Case Reports

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Keywords

Sleeve gastrectomy · Stenosis · Stent · Surgery · Endoscopy

Summary

Aim: The growing enthusiasm to perform laparoscopic sleeve gastrectomy (LSG) in morbidly obese patients exposes also the complications associated with this type of surgery. LSG is not only performed in super-super-obese patients, but in addition has also its standing as a procedure in patients with multiple intraabdominal adhesions based on prior surgeries or after failed gastric banding. However, over the years there are characteristic complications as demonstrated by the increasing number of surgical interventions. Beside the risk of an insufficiency at the staple line, there is just as well the risk of a stenosis. **Case Reports:** The case reports will present several ways of the treatment that can be regarded as alternative approaches. **Conclusion:** The final decision to perform a surgery or to implant a stent needs to be calculated from case to case. This demonstrates the importance of an experienced team of surgeons and endoscopists.

Introduction

The growing enthusiasm to perform laparoscopic sleeve gastrectomy (LSG) in morbidly obese patients exposes also the complications associated with this type of surgery. LSG is not only performed in super-super-obese patients, but is also has performed in patients with multiple intraabdominal adhesions based on prior surgeries or after failed gastric banding. How-

ever, over the years there are characteristic complications as demonstrated by the increasing number of surgical interventions. Beside the risk of an insufficiency at the staple line, there is just as well the risk of a stenosis.

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Case Reports

Case 1

In August 2009 a 38-year-old woman presents with an initial BMI of 52 kg/m² after LSG. She suffered from postprandial nausea and recurrent emesis. Weight loss was successful, and the BMI after 6 months was 40 kg/m². Conservative treatment approaches such as nutritional consulting as well as the prokinetic and antiemetic medication were without success. A stenosis due to rotation in the upper part of the sleeve was detected by esophagogastroduodenoscopy (EGD) and the virtual pouchography (VPG) (fig. 1). We decided to perform a laparoscopy, discovered adhesions and solved them to release the sleeve. In the post-operative course the patient was asymptomatic concerning nausea and emesis. The follow-up examinations were without any pathology and the patient is still losing weight.

Case 2

In March 2009 a 35-year-old woman presents with an initial BMI of 55 kg/m² after LSG. She had modified her eating behavior and consumed high-calorie liquids and sweets and thus was gaining weight again. She complained about postprandial nausea and recurrent vomiting. Furthermore, she suffered from gastroesophageal reflux. Conservative treatment was ineffective. By using the EGD, VPG and X-ray irradiation, we diagnosed a stenosis due to the kink of the sleeve at the level of the incisura angularis and a hiatal herniation resulting in gastroesophageal reflux (fig. 2, 3). Based on the gastric reflux and the insufficient weight loss, we decided to convert from sleeve gastrectomy to gastric bypass. The next follow-up examinations demonstrated a successful weight loss without nausea or emesis and no more gastroesophageal reflux as shown by EGD.

Fig. 1. Rotation of the upper sleeve due to adhesions (VPG)

Fig. 2. Kinking at the incisura angularis (VPG)

Case 3

In 2009 a 48-year-old woman was transferred from another hospital with a prolonged course over 1 month with severe complications. The colleagues decided, after treatment failure of open gastric banding introduced in 2008, to perform an open sleeve gastrectomy. The patient developed a complete stenosis in the middle of the sleeve. Conservative treatment, seromyotomy and multiple endoscopic balloon dilations were without effect. The patient stayed on a complete parenteral nutrition via central venous line. However, the patient was transferred to our hospital. We detected a long-segment stenosis in the EGD. The barium contrast fluid could not pass the stenosis. We performed a laparoscopy with the intention to convert into gastric bypass. The complete sleeve was frozen by strong adhesions to liver, spleen, ventral abdominal wall and omentum.

Fig. 3. Kinking at the incisura angularis (EGD)

Fig. 4. Expanded stent to bridge the stenosis (X-ray)

We were able to solve a part of the adhesions, and the patient was able to drink small amounts. Another EGD still demonstrated a stenosis, but with the small scope it was passable. So we implanted a stent (length 110 mm, diameter 20 mm) without complications (fig. 4). We explanted the stent 3 weeks later. The patient was asymptomatic in the next follow-up examinations.

Discussion

LSG is increasingly performed in patients with prior intraabdominal surgical interventions when adhesions of the intes-

tine are suspected and it is regarded as a safe procedure after failed gastric banding [1, 2]. This kind of surgery represents not only an alternative for super-obese patients, it is more and more the choice in highest risk patients with severe co-morbidities (e.g. Crohn's disease, cirrhosis, anemia, cardiac arrhythmia, immunosuppression etc.). Needless to say that these factors are able to create problems [3, 4]. However, surgeons are confronted with complications such like those occurring in the present cases and have to deal with them. Fear to perform redo-surgery has drawn attention to endoscopic approaches. Thus expert endoscopists are urgently needed in the surgical team.

Stent implantation is not only a nonsurgical treatment of staple line leakage, it is furthermore an elegant procedure to bridge and dilate a stenosis [5–7]. The good results after stent explantation underline the usefulness of this approach. There is a multiplicity of stents different in length, diameter and

coating. The passage of the stenosis with the endoscope is required for stent implantation. However, the success of the intervention depends on the length of the stenosed segment, the intensity of the curve (kinking) and the duration of stent implantation [8].

Surgical therapy on the other hand aims at converting LSG to gastric bypass if the localization of the stenosis allows for such a convert operation or to resect or relieve the stenosis.

The cases were selected to demonstrate the variety of stenosis after sleeve gastrectomy. The final decision how to solve these problems needs to be discussed in the team of surgeons and endoscopists.

Disclosure Statement

The author declared no conflict of interests.

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