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MULTIMEDIA ARTICLE

Conversion of AspireAssist System® to Sleeve Gastrectomy: Technical Video Description

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Abstract

Purpose The AspireAssist System® (Aspire Bariatrics, Inc. King of Prussia, PA) is a new endoscopic procedure used to treat obese patients. The aim of this dedicated video is to present a case that required revision surgery due to failure of the AspireAssist System®, and to show how the cannula was removed from the abdomen, and why sleeve gastrectomy (SG) was a good option for revisional surgery in that patient. We aim to discuss technical aspects.

Patient and Methods A 43-year-old female patient who underwent a placement in 2016. Her initial BMI (body mass index) was 38 kg/m^2, with a follow-up period of 26 months. A revisional surgery was performed including dissection of the previous gastric fistula and adhesiolysis from the previous AspireAssist System® placement. A complete dissection of the gastrostomy, including removal of all the system, was done. A decision was made, once the incisura angularis and the placement of a 40 Fch bougie showed that the transection could be performed. SG was done. Patients showed an uneventful postoperative course and 4 months follow-up with 45% EWL.

Conclusion In case of having the device in place, the surgeon must be aware to remove intraoperatively or endoscopically, the device. Surgeons should consider endoscopic removal of the AspireAssist System® before conversion to another procedure (SG or GBP) at least 6 months of the removal.

Removal of the AspireAssist System® should be performed endoscopically but direct conversion to another bariatric procedure can be considered, either to SG or GBP depending on the technical intraoperative aspects.

Keywords AspireAssist System® · Sleeve gastrectomy · Laparoscopic revisional surgery · Conversion · Weight regain · Failure

Introduction

The AspireAssist System® (Aspire Bariatrics, Inc. King of Prussia, PA) involves endoscopic placement of a gastrostomy tube (A-Tube) and the AspireAssist System® siphon assembly to aspirate gastric contents 20 min after meal consumption [1, 2]. In cases of morbid obesity, treatment is generally surgical, and nowadays, endoscopic approaches are increasing. The AspireAssist System® procedure is new, but its reliability and effectiveness are unclear as of yet. The aim of

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this dedicated video is to present a case that required revision surgery due to failure of the AspireAssist System®, and to show how the cannula was removed from the abdomen, and why sleeve gastrectomy was for revision surgery.

Patient and Video Description

The AspireAssist System® was applied in 2017 and failed. Then, the patient required revisional surgery. We described how we removed the cannula and how we performed a sleeve gastrectomy (SG). The video is a technical presentation of the operation. The patient provided her consent to use the video material for academic interests. For this type of study, a formal consent is not required.

Results

A 43-year-old female patient underwent a placement in 2016. Her initial BMI (body mass index) was 38 kg/m^2, with a follow-up period of 26 months. The patient at the time of the surgical procedure (SG) had a similar BMI. The patient did not experience any weight loss while using the AspireAssist System®. Preoperative assessment included a gastroscopy with the AspireAssist System® and that showed no hiatal hernia. The patient then underwent a revisional surgical procedure. The procedure began with the insertion of a veress needle and was done with a pneumoperitoneum at 12 mmHg. An 11-mm optical trocar was placed in the left lateral flank of the patient to avoid medial gastric adhesions and adhesiolysis from the previous AspireAssist System® placement that were removed. A complete dissection of the gastrostomy, including removal of all the system, was done. A decision was made, once the incisura angularis and the placement of a 40 Fch bougie showed that the transection could be done. Complete gastric short vessels were transected and SG was performed as the standard practice (Video description). Methylene blue test was done. As per routine, no drain was left inside. The postoperative course was uneventful. The patient was discharged after 3 days, and 4 months follow-up showed a decreased weight of 15 kg or 45% of EWL.

Discussion

No firm conclusions can be drawn from one case and long-term results from multiple cases should be conducted. Aspiration therapy is a paradigm shift in the treatment of obesity compared to bariatric surgery as it can offer the possibility of better feedback from postoperative symptoms, such as nausea, vomiting, better enjoyable eating, and allowing the patient to go on "holidays" in the treatment by not using the device. A multicenter observational trial including 201 patients showed a mean percent total weight loss of 18.2% ± 9.4% (n/N = 155/173), 19.8% ± 11.3% (n/N = 82/114), 21.3% ± 9.6% (n/N = 24/43), and 19.2% ± 13.1% (n/N = 12/30) at 1, 2, 3, and 4 years, respectively (n is the size of the measured protocol population. N is the size of the available population in the study) [2]. In that specific study, 5 patients underwent a gastric bypass after 3–14 months. No technical surgical aspects are reported if there was any antrum resection when removing the device [2]. The authors mention the AspireAssist System® in terms of safety, effectivity, and providing durable weight loss therapy in people with class II and III obesity in a clinical setting [3–5]. We need to address the fact that all reported literature regarding AspireAssist System® is with a few number of patients and also short follow-ups, ranging from 6 to 2 years with 10 patients at 2 years follow-up [1].

Other endoscopic procedures to treat primary obesity such as the Primary Obesity Surgery Endolumenal (POSE$^{(TM)}$) procedure have been described [6]. We are recently facing more revisional surgery coming also from endoscopic primary procedures. When we need to decide which procedure, we will need the patient and plan the surgery; a crucial aspect is the integrity of the incisura angularis of the stomach. In our case, SG was demonstrated to be a safe procedure because the incisura angularis was not touched by the AspireAssist System® device gastrostomy, and a place for the bougie placement was adequate. SG can be considered the first technique to be applied following the AspireAssist System® failure, but it is also possible to perform gastric bypass (GBP). In case of having the device in place, the surgeon must be aware to remove the device intraoperatively or endoscopically. Surgeons should consider endoscopic removal of the AspireAssist System® before conversion to another procedure (SG or GBP) at least 6 months of the removal.

Conclusion

Removal of the AspireAssist System® should be performed endoscopically but direct conversion to another bariatric procedure can be considered, either to SG or GBP depending on the technical intraoperative aspects.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

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