



Endoscopic sleeve gastroplasty is feasible after failed modified primary obesity surgery endoluminal procedure

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INTRODUCTION

Endoscopic sleeve gastroplasty (ESG) or gastric plication is a recent, minimally invasive treatment in bariatric endoscopy. The basic mechanisms of action are gastric volume reduction and alteration of gastric peristalsis.¹ Currently, 3 devices are used in daily clinical practice: Apollo Overstitch (Apollo Endosurgery, Austin, Tex, USA), Endomina (Endo Tools Therapeutics, SA-ETT, Gosselies, Belgium), and an incisionless operating platform (USGI Medical, San Clemente, Calif, USA). They are used to perform the modified primary obesity surgery endoluminal (POSE-2) procedure. Of these, Endomina is used only in Europe.

ESG seems to be safe and effective in selected patients, and effectiveness is similar for all of the mentioned devices.²⁻⁶ Between these devices, ESG with Apollo Overstitch is the most explored. In case of failure of weight loss, redo ESG after primary ESG (both with Apollo Overstitch) has been proved to be safe and effective, with 100% of technical success and about 19% of total body weight loss within 1 year.^{7,8} To our knowledge, ESG with Apollo Overstitch after failed POSE-2 procedure has not yet been described. Here, we describe the clinical results and technical aspects of the first case of ESG with Apollo Overstitch after a previous POSE-2 procedure.⁵

CASE REPORT

A 40-year-old female patient with obesity (body mass index [BMI] 36 kg/m²) with hypertension and dyslipidemia who had refused bariatric surgery underwent the POSE-2 procedure after multidisciplinary team evaluation. The POSE-2 procedure was done in June 2019. The patient lost 19 kg (21% of total body weight loss) in 1 year, with a BMI of 28.8 kg/m². In November 2020, the patient lost her sense of satiety, and her BMI progressively increased to BMI 31.6 kg/m². On gastroscopy, all of the stitches of the POSE-2 procedure were almost completely opened (Fig. 1). The patient underwent a new multidisciplinary team evaluation, and a redo procedure with Apollo Overstitch was indicated.

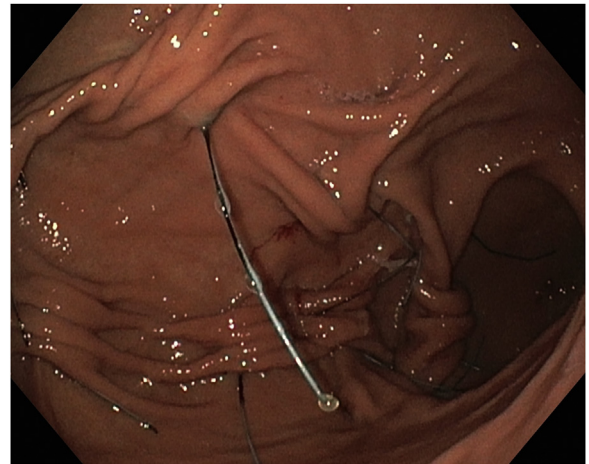


Figure 1. EGD showed modified primary obesity surgery endoluminal stitches to be almost completely opened.

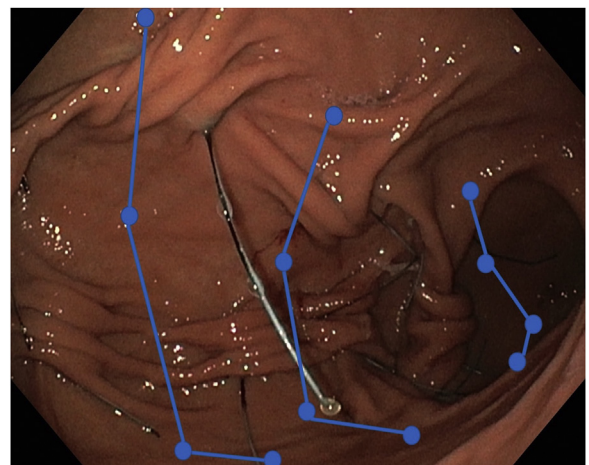


Figure 2. During the suturing, avoid overlapping the different suture lines (blue dots).

DESCRIPTION OF THE TECHNIQUE AND TECHNICAL ASPECTS

The procedure (Video 1 available online at www.giejournal.org) was done with the standard Apollo Overstitch suturing device and a double-channel gastroscope

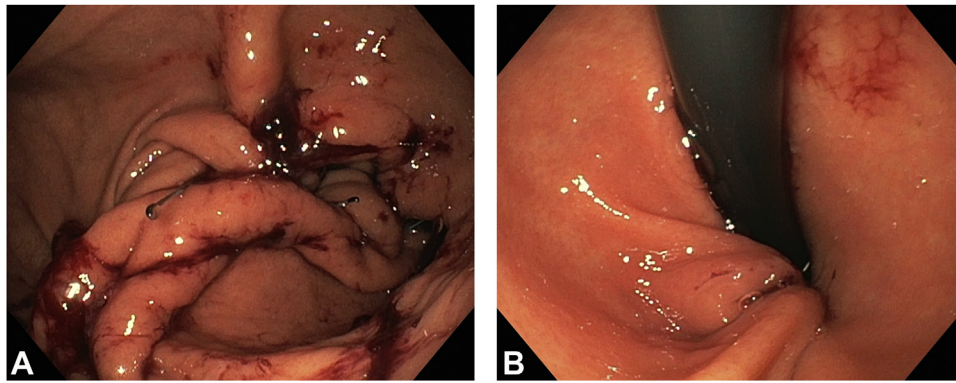


Figure 3. The final result after endoscopic sleeve gastrectomy. (A) View from the gastric fundus and (B) the antrum in retrovision.

(2TGIF-180, Olympus, Tokyo, Japan), with CO₂ inflation and endotracheal intubation and the patient in a supine position. The remnant stitches of the POSE-2 were left in place.

Suturing started from the gastric incisura toward the fundus, leaving the fundus untouched. Sutures were placed on intact gastric mucosa; we took care not to suture over the previous stitches of the POSE-2 procedure. It is crucial to avoid the POSE-2 sutures to avoid needle engagement in those of the Overstitch device. The suture lines were straight whenever possible, starting from the anterior gastric wall, passing through the greater curvature, and ending at the posterior gastric wall (Fig. 2).

A maximum of 4 bites was used⁷ to avoid too much stirring of the stomach, which could lead to too much pressure on the gastric wall and eventually to gastric perforation. Adding too much pressure between the sutures should also be avoided to reduce the pressure on the stomach. In addition, it should be kept in mind that every bite induces an inflammatory reaction of the gastric serosa and generates adhesions on the external gastric wall. Essentially, the difference in the redo ESG over POSE-2 is in the suture pattern. In the present case, up to 4 bites in a straight line were done per suture, whereas normally in an ESG up to 6 bites with a U pattern are performed.

A total of 5 sutures were placed with 4 bites each. The last suture line was placed about 4 cm distal to the cardia. Mean operation time was 32 minutes. Using CO₂ and avoiding overinsufflation is essential. Gentle and slow pulling of the sutures is recommended because this improves the surgeon's ability to assess of the generated tension. Finally, all liquid content in the stomach should be aspirated, especially if it contains blood; this will reduce postoperative nausea and vomiting.

The final aspect of the gastric sleeve was similar to a primary ESG (Fig. 3A and B). No adverse events occurred, and the patient was discharged the next day.

CLINICAL OUTCOMES

After 1 month, the patient lost 7.5 kg, for a BMI of 28.8 kg/m², with no delayed adverse events and excellent sense of satiety. At 6 months, her BMI was 26.4 kg/m², with excellent feeling of satiety. The patient started aerobic physical activity and maintained a good sense of satiety.

CONCLUSIONS

ESG is a safe, feasible, and effective procedure after modified primary obesity surgery endoluminal procedure.

DISCLOSURE

Dr Costanagna is a consultant for Cook Medical, Boston Scientific, and Olympus. Dr Boškoski is a consultant for Apollo Endosurgery, Cook Medical, Boston Scientific, and Endo Tools and is a research grant holder for Apollo Endosurgery. All other authors disclosed no financial relationships.

Abbreviations: BMI, body mass index; ESG, endoscopic sleeve gastrectomy; POSE-2, modified primary obesity surgery endoluminal.

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