



Novel approach for weight reduction after Roux-en-Y gastric bypass with weight regain: a combination of Bariatric Anastomotic Reduction System with tubularization of residual gastric pouch

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Roux-en-Y gastric bypass (RYGB) is an effective weight loss procedure, with an average excess weight loss (EWL) of 70% at 1 year and a persistent EWL of 60% even after 10 years.¹ Significant weight regain (WR) with relapse of obesity-related adverse events has become a prevalent issue in one-third of the patients after RYGB. The underlying causes for WR are multifactorial. Among the anatomic factors, gastrojejunal (GJ) dilation (>20 mm) and pouch dilation are common.² Endoscopic reduction of the anastomotic site diameter between the gastric reservoir and the jejunum is a possible option to slow down passage of food, and endoscopic resizing of the residual gastric pouch would be an option to regain the restrictive effect of gastric bypass.³ The literature suggests that tightening of an enlarged stoma can lead to an EWL of 23%.⁴ Resizing of the gastric pouch showed good results in weight loss and in improvement or resolution of comorbidities. We present a case of post-RYGB WR managed successfully with a novel approach of a combination of the Bariatric Anastomotic Reduction System (BARS) with tubularization of residual gastric pouch (Video 1, available online at www.videoGIE.org).

The BARS device (Ovesco Endoscopy, Tübingen, Germany) is similar to the over-the-scope clip (OTSC) system. The addition of more teeth to the lateral portion of the OTSC enhances lateral tissue acquisition (Fig. 1). By doing this, the specimen is held firmly in place and tissue is prevented from slipping out of the clip prongs. Additional work-

ing channels are built with the application cap, which runs along the endoscope and helps with better manipulation. The tissue manipulation and pulling process are performed using 2 anchors. For improved instrumentation, inside the cap there are 2 instrument-directing grooves that lead to a triangulation of the anchors toward the cap center.³

After detailed discussion with the patient, the procedure was planned. The procedure was performed with the patient under general anesthesia. Initially, preparation of the tissue was done for better tissue anchorage with spray coagulation at the GJ anastomosis (Figs. 2 and 3). To facilitate the passage of the BARS device mounted on the endoscope, a guidewire was advanced, and a dilatation balloon was inflated at the upper esophageal sphincter. At the marking site, the anchors were inserted into the tissue. The 2 points at which the anchors grasped the tissue were selected on the lower end of the hemi-circumference of the GJ stoma (Fig. 4). The 2 anchors were pulled back gently, the tissue was retrieved (Fig. 5) into the BARS cap, and the clip was released (Fig. 6). We subsequently performed pouch reduction with the use of the Overstitch device (Apollo Endosurgery, Austin, Tex, USA) of the distended residual gastric pouch after RYGB (Figs. 7 and 8). The patient was hospitalized for 2 days for observation, and there were no adverse events. A short course of prophylactic antibiotics was given, and proton pump inhibitors were given after the procedure. On follow-up, a total body weight loss of 12% at 16 weeks was achieved.

A combination of BARS with tubularization of residual gastric pouch could be an effective option for treating WR after RYGB. This is the first described dual approach technique for weight reduction in post-RYGB weight regain patients.

Abbreviations: BARS, Bariatric Reduction System; EWL, excess weight loss; GJ, gastrojejunal; OTSC, over-the-scope clip system; RYGB, Roux-en-Y gastric bypass; WR, weight regain.

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DISCLOSURES

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Figure 1. **A**, Bariatric Anastomotic Reduction System (BARS) device cap with the over-the-scope clip mounted over the endoscope. **B**, Overall view of the BARS mounted on a gastroscope. **C**, The distal end of the endoscope with the mounted BARS including both the graspers introduced through the accessory channels fixed alongside the endoscope.

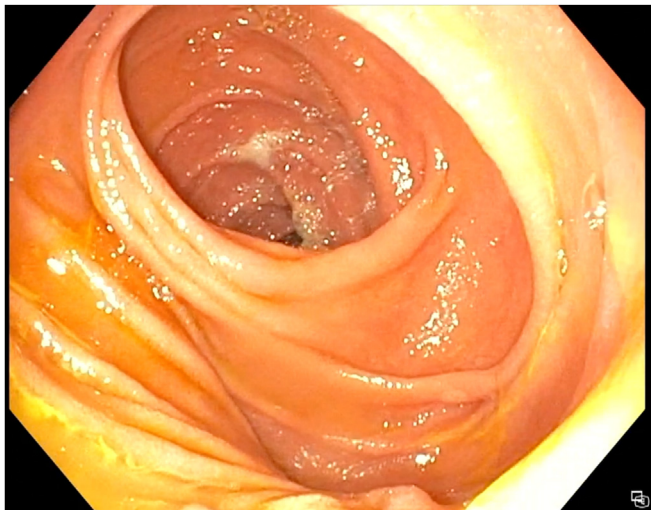


Figure 2. Grossly dilated gastrojejunal stomal site in a patient after Roux-en-Y gastric bypass with weight regain.



Figure 3. The desired application site for the Bariatric Anastomotic Reduction System over-the-scope clip is marked in advance, with spray coagulation done at the gastrojejunal site. Preparation was done to help better anchor the grasper and the clip.

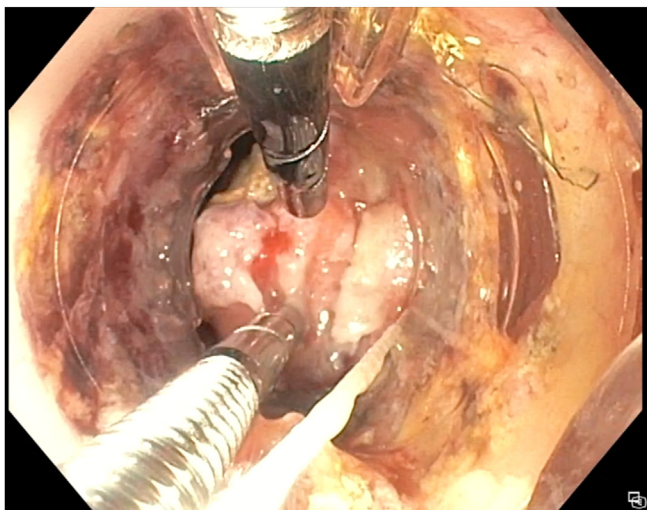


Figure 4. The tissue grasped at the gastrojejunal (GJ) stomal site using the silver and black anchors; the inflated spacer balloon is pulled back till it touches the working channel, placing it across the GJ site (which is to maintain enough luminal patency of the stoma site after application of the Bariatric Anastomotic Reduction System clip).

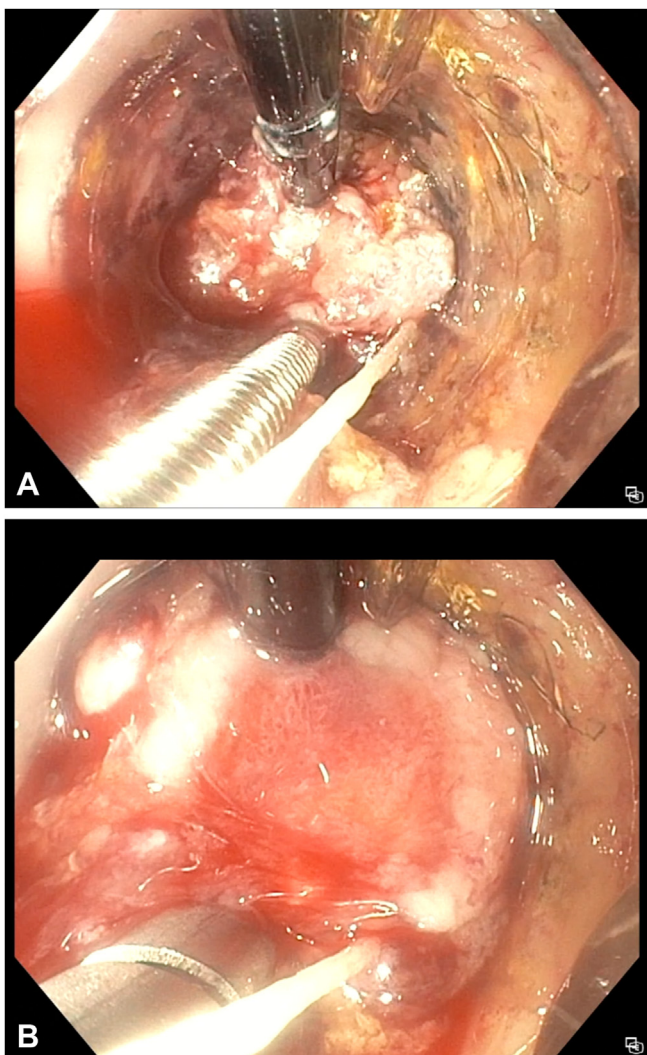


Figure 5. A, The grasped tissue at an area intended to place the Bariatric Anastomotic Reduction System (BARS) clip (close to the previously grasped tissue). **B,** Both the tissue anchors are gradually and simultaneously pulled into the applicator cap and the BARS clip is applied.

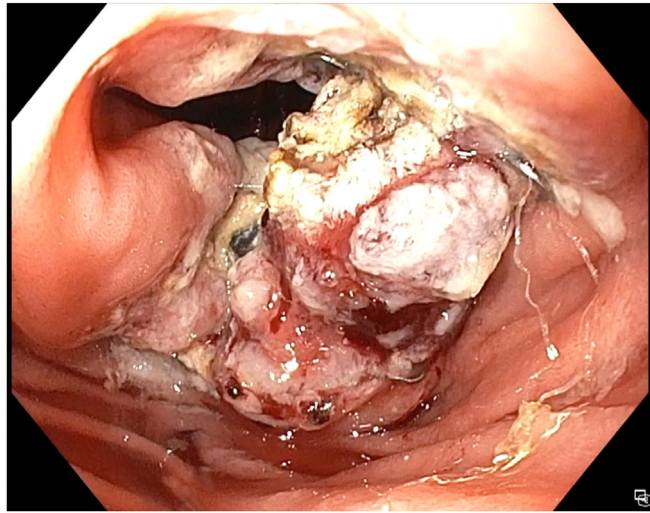


Figure 6. The stomal site after placement of the Bariatric Anastomotic Reduction System device.

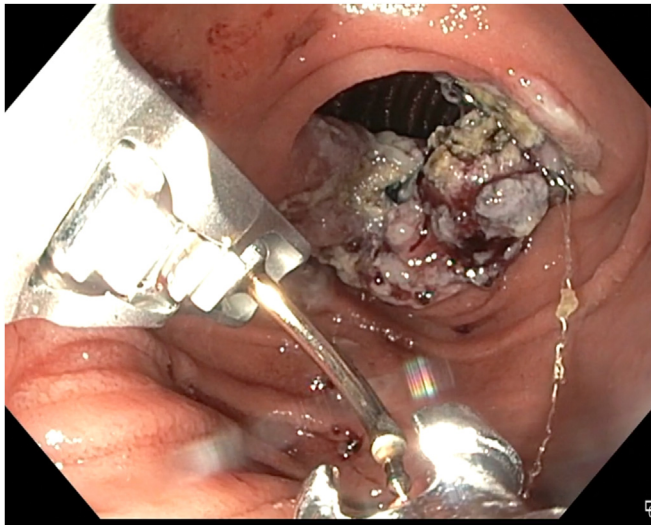


Figure 7. Residual dilated pouch before tubularization.

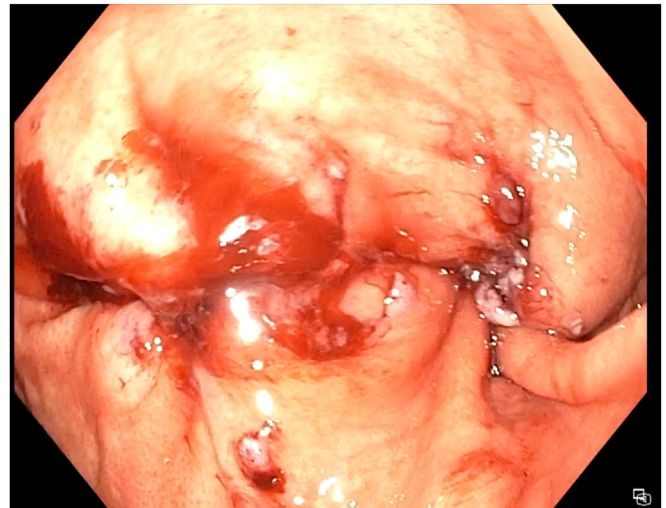


Figure 8. Resized pouch after tubularization—"pouchoplasty."

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