A novel approach for weight regain after Roux-en-Y gastric bypass: Staged transoral outlet reduction (TORe) followed by surgical type 1 distalization

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INTRODUCTION

Roux en-Y gastric bypass (RYGB) is an effective modality for substantial long-term weight loss. Although patients experience 60% to 80% excess weight loss after RYGB, about one-third of these patients experience weight regain and relapse of obesity-related pathologies over time.[1,2] This subset of patients presents a treatment challenge because lifestyle modifications and pharmacologic therapies may have limited efficacy.[3]

Transoral outlet reduction (TORe) of the gastrojejunal anastomosis (GJA) and type 1 distalization of the Roux limb have separately shown promising outcomes as treatment modalities for weight regain in RYGB patients.[4,5] Although multiple surgical revisions have been proposed, type 1 distalization with biliopancreatic limb elongation offers the best weight loss and nutritional profile.[6] Although TORe leading to 8.4 kg weight loss at 12 months[5] and distalization resulting in a 6-point decrease in body mass index (BMI) in the same time interval are considered appropriate in many circumstances, these figures are not sufficient in patients with BMI above 50 kg/m^2. We present a novel approach to address weight regain after RYGB in higher BMI patients, combining the restriction component of TORe and the malabsorption component of distalization in a staged fashion.

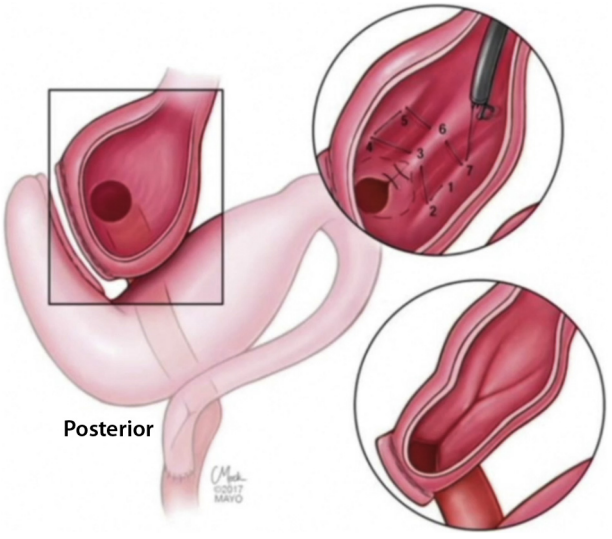

Figure 1. Transoral outlet reduction—graphical illustration.

CASE REPORT

The video (Video 1, available online at www.giejournal.org) highlights our novel approach of TORe followed by Roux limb distalization. We present a case of a 61-year-old woman who underwent open RYGB (BMI of 53.8 kg/m^2) in 2003, with a nadir weight loss after 2 years (BMI of 35.6 kg/m^2). The patient subsequently experienced weight recidivism, with a peak BMI of 59.3 kg/m^2 in 2020 and multiple associated comorbidities. The patient did not respond to extensive exercise or dietary or appropriate medical therapy and did not succeed in losing weight. With her higher BMI, we elected to perform TORe in conjunction with a Roux limb distalization in a staged fashion.

PROCEDURE

TORe

During the endoscopic intervention in June 2021, the pouch measured 40 mm, and the GJA was 35 mm. Epinephrine and methylene blue were injected circumferentially around the GJA to establish a submucosal lift. Using a HybridKnife (Erbe, Marietta, GA), we performed

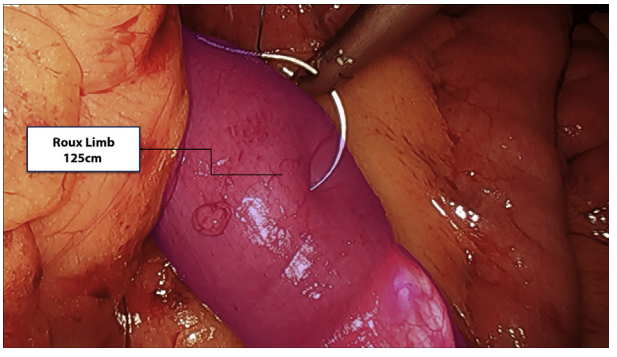

Figure 2. Roux limb.

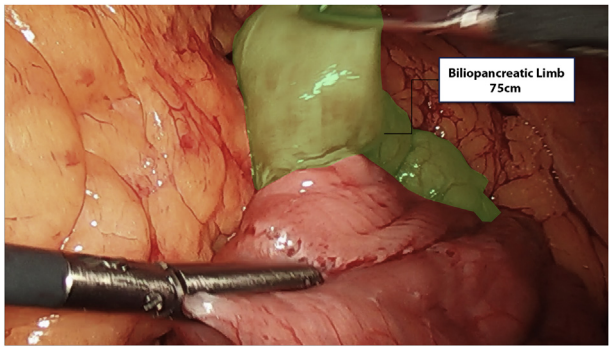

Figure 3. Biliopancreatic limb.

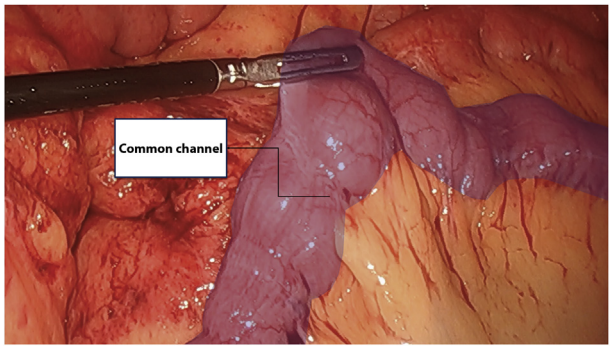

Figure 4. Common channel.

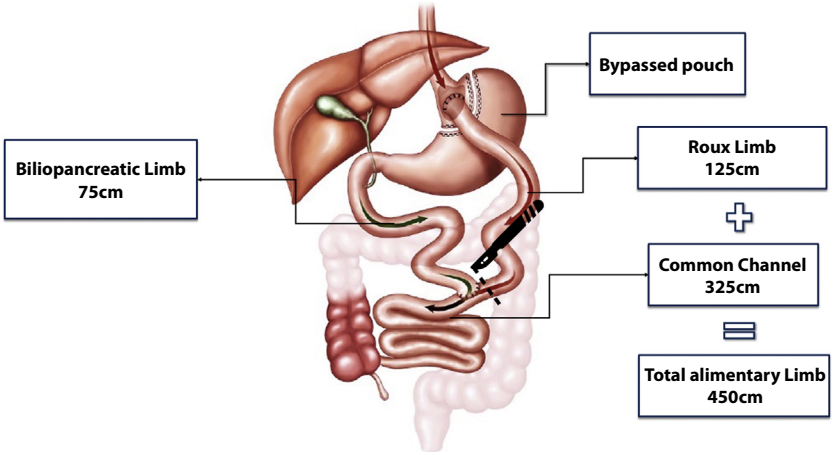

Figure 5. Type 1 distalization of the Roux limb—before the procedure.

a mucosal incision followed by argon plasma ablation. The gastrojejunal stoma was reduced via the placement of 8 stitches in a zipper-like fashion. To create a tubular shape of the stomach, running U-shaped sutures were placed (Fig. 1).

Roux Distalization

Two months after TORe (August 2021), the patient was taken to the operating room for laparoscopic type 1 distalization of the Roux limb. After adhesiolysis, the Roux limb (Fig. 2), and the biliopancreatic limb (Fig. 3) were identified and measured. The Roux limb measured 125 cm, and the biliopancreatic limb was 75 cm. The whole common channel was measured at 325 cm (Fig. 4), yielding a total alimentary limb length (Roux + common channel) of 450 cm (Fig. 5). To elongate the biliopancreatic limb, we resected the Roux limb as it entered the jejunojejunostomy (Figs. 6 and 7) and then distalized it 75 cm further on the common channel for a new total alimentary limb length of 375 cm and a new biliopancreatic limb length of 150 cm (Fig. 8).

OUTCOME

The patient had no adverse events in the intraoperative or postoperative period. The patient's BMI dropped from 59.3 to 44 kg/m^2 (17.3% of total weight loss) 6 months after TORe and 4 months after distalization. The associated GERD, sleep apnea, dumping, and hypoglycemia were resolved at 6-month follow-up. Thus, the novel procedure of a staged TORe and distalization can present an excellent alternative for weight regain management in higher BMI patients status post RYGB.

DISCLOSURE

Dr Abu Dayyeh has a provision of material/funding from Apollo Enosurgery, Boston Scientific, and Medtronic; receives consulting fees from Boston Scientific; and receives payment of honoraria for lectures, presentations from Olympus. All other authors disclosed no financial relationships.

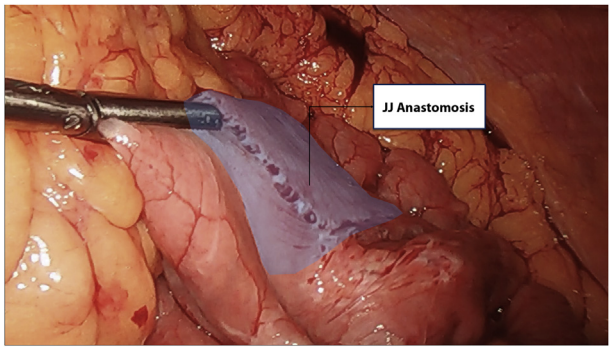

Figure 6. Jejunojejunal anastomosis.

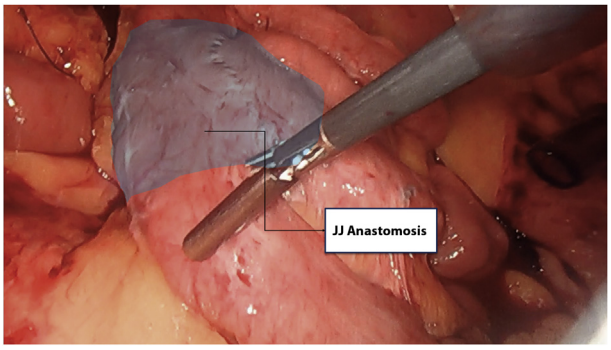

Figure 7. Jejunojejunal anastomosis 2.

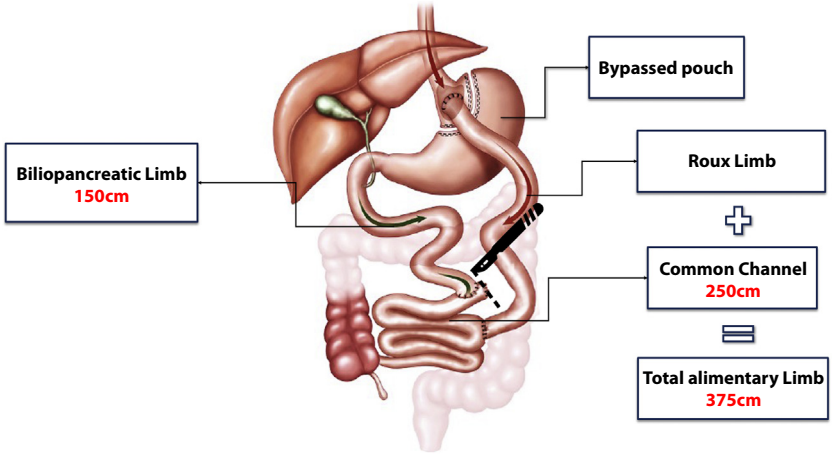

Figure 8. Type 1 distalization of the Roux limb—after the procedure.

Abbreviations: BMI, body mass index; GJA, gastrojejunal anastomosis; RYGB, Roux-en-Y gastric bypass; TORe, transoral outlet reduction.

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