Outcomes of Patients Who Underwent Transoral Outlet Reduction For Inadequate Weight Loss After Roux-En-Y Gastric Bypass

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Introduction

Obesity is a well-known global epidemic, associated with a wide range of medical co-morbidities. Bariatric Surgery has become a gold standard for weight reduction and improvement in comorbidities. The Roux-en-Y Gastric Bypass (RYGB) is a commonly performed procedure, which can lead to significant weight loss. Some patients experience weight regain or insufficient weight loss. The reasons for weight regain are complex and multifactorial, including behavioral, psychological, physiological, and anatomical factors.

Surgical management for weight regain after RYGB is varied and technically challenging, one alternative option is the endoscopic Transoral Outlet Reduction (TORe). TORe a is less invasive alternative to reduce the size of the gastrojejunal anastomosis (GJA) and the volume of the gastric pouch. This study aims to evaluate safety and efficacy of TORe.

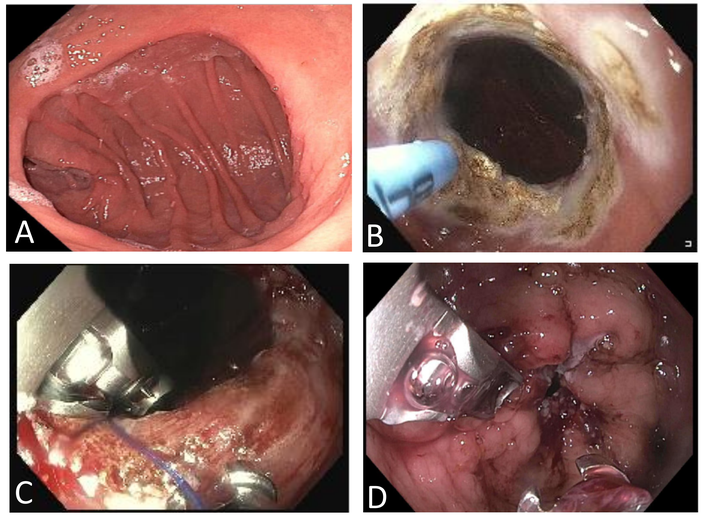


Figure 1. Endoscopic View of TORe showing GJ Anastomosis pre- (A) and post-APC (B), Endoscopic Suture Technique (C), and Post-TORe (D).

Methods

Single center retrospective review of patients who underwent TORe for inadequate weight loss or weight regain after RYGB. Patients who underwent RYGB at any time and who experienced inadequate weight loss with a BMI > 30 were referred for TORe. A pre-TORe endoscopy was performed in all patients, GJA outlet diameter >2cm was required for TORe. First, argon plasma coagulation was performed, covering a 1-cm circumferential ribbon on the gastric side of the GJA. Then, either one continuous 360° suture or multiple interrupted purse string sutures were placed with the Apollo OverStitch Endoscopic suturing device. The suture was tightened over an 8 mm inflated balloon to confirm post-TORe outlet size (Figure 1.). The primary outcome was amount of weight lost at 1, 2, 3, 6, 12, and 18 months after initial TORe. This was reported as absolute weight loss (AWL) and percent of excess weight loss (EWL). Secondary outcomes included adverse events in a post-TORe 30-day time period.

Results

Table 1. Baseline Patient Characteristics

Parameter	
Sex, *n (%)*	
Male	1 (1.96)
Female	50 (98.0)
Race/Ethnicity, *n (%)*	
Hispanic	28 (54.9)
White	3 (3.92)
Black or African American	14 (27.5)
Asian	2 (3.92)
Other	4 (7.84)
Age, *y*	44.1 ± 8.85
BMI, *kg/m²*	37.9 ± 5.43

Weight Loss

From November 2020 to September 2022, a total of 51 patients met TORe requirements (Table 1). In total, the cohort regained 46.6 ± 21.2% of their weight lost after their RYGB. The average pre-TORe GJA outlet diameter was 3.47m. 38 TORe were performed with one 360° suture and 13 were performed in an interrupted fashion. The median %EWL and AWL are reported at 1, 2, 3, 6, 12, and 18 months (Table 2). There was no difference between the percent EWL between patients who received the 360° vs interrupted stitch pattern at 6 months post-TORe (Table 3).

Safety

The rate of adverse events was 13.3%. The most common adverse event (11%) being ED visit within 30 days post-TORe. The majority were due to PO intolerance and emesis, with one patient requiring readmission for IV hydration. There were no occurrences of perforation, UGIB, or repeat procedure within 30-days post-TORe.

Table 2. %EWL and AWL at Post-TORe

Follow-Up Post-TORe, *month*	%Excess Weight Loss, *% +/- std dv*	Absolute Weight Loss, *kg +/- std dv*
1	7.39 +/- 6.73	4.08 +/- 2.12
2	15.68 +/- 4.84	7.71 +/- 2.69
3	21.34 +/- 8.09	7.26 +/- 3.73
6	8.49 +/- 10.36	3.63 +/- 4.71
12	8.00 +/- 4.44	4.54 +/- 3.77
18	11.30 +/- 17.39	3.18 +/- 4.52

Table 3. %EWL Differences in Continuous and Interrupted Suture Type

Follow-Up Post-TORe, *month*	Median %Excess Weight Loss		
	Continuous	Interrupted	
1	5.02	9.11	
2	14.63	17.76	
3	16.28	31.03	
6	9.01	3.15	p=0.204

Conclusion

This study confirms that TORe is a safe and effective procedure, that weight-loss outcomes are equivalent regardless of suture technique, and that it can be performed as a part of long-term treatment in patients experiencing weight-regain after undergoing RYGB.

References

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