Endoscopic Ultrasound Guided Entero-enterostomy Creation for the Treatment of Severe Candy Cane Syndrome After Roux-en-Y Gastric Bypass

Roberto P. Trasolini MD MSc, Pichamol Jirapinyo MD MPH, Christopher C. Thompson MD MSc

Brigham and Women's Hospital, Division of Gastroenterology, Hepatology and Endoscopy

Background

Candy cane syndrome refers to post-prandial nausea, pain and vomiting that can occur after roux-en-y gastric bypass (RYGB) due to entrapment of food in the blind limb of the end-to-side gastro-jejunal anastomosis. Surgical resection of the blind limb can be effective for symptom resolution but is not feasible in high-risk patients. Herein, we present a novel endoscopic approach for the treatment of candy cane syndrome.

Case Presentation

A 40-year-old female presented with near daily vomiting and post-prandial pain requiring chronic port-a-cath for hydration. Her history includes a sleeve gastrectomy complicated by sleeve stenosis and conversion to RYGB. Persistent vomiting led to exploratory laparoscopy and jejunal feeding tube with no cause identified. Subsequently, she underwent laparoscopic reduction of an internal hernia requiring small bowel resection complicated by sepsis due to surgical site infection and intrabdominal leak treated with resection and recreation of the gastrojejunostomy. Several years later she was referred to gastroenterology for refractory post-prandial pain and vomiting. On endoscopic evaluation, she was found to have an 8 cm blind limb concerning for candy cane syndrome. Upper GI series confirmed contrast accumulation and stasis within a dilated blind limb. After discussion of the potential risks and benefits, she was not willing to undergo surgery and requested an attempt at an endoscopic repair.

Procedure

With the patient in the supine position the proximal jejunum including the blind limb was distended with 700mL dilute contrast and methylene blue using a linear echoendoscope. All gas pockets were aspirated, and fluoroscopic assessment of the anatomy was undertaken. 0.5mg boluses of glucagon were administered IV as needed to reduce peristalsis. A linear echoendoscope was introduced into the blind limb and an appropriate target in the roux limb was identified using fluoroscopic and endosonographic guidance. A 15mm x 10mm fully covered lumen apposing metal stent was then advanced transmurally to bridge the limbs of small bowel using electrosurgical current, auto-cut setting at 100 watts, effect 5. The final position of the stent was then assessed fluoroscopically and endoscopically confirming intraluminal placement of the proximal and distal flanges of the stent with the waist bridging the two lumens. Using CO_2 insufflation, free communication of gas across the stent was seen.

Discussion

At 2 month follow up, the patient was tolerating a soft diet with complete resolution of post-prandial vomiting and was no longer dependent on IV hydration. GCSI score improved post-operatively from 34 to 12. Upper GI series showed flow across the stent without stasis. This case demonstrates technical feasibility and clinical effectiveness of EUS guided entero-enterostomy for the treatment of candy cane syndrome.

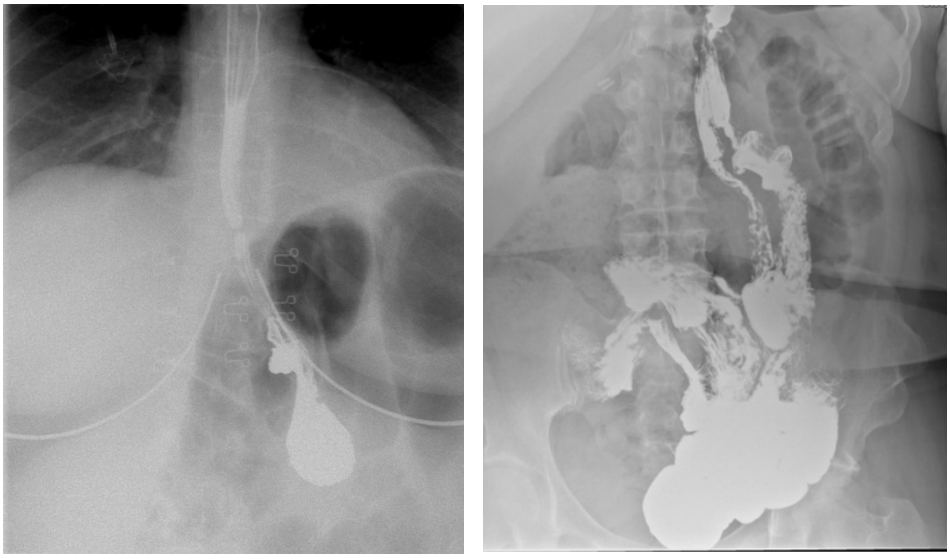

Fig 1. Pre-procedure upper GI series showing stasis (left). Upper GI series showing flow across LAMS (right)