



Use of endoscopic plication to repair a dysfunctional gastric conduit

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BACKGROUND

Gastric outlet obstruction from a dysfunctional gastric conduit is often encountered in patients who have undergone esophagectomy with gastric pull-through. In this case, we describe the application of the endoscopic gastric plication technique to repair a dysfunctional gastric conduit.

CASE PRESENTATION

A 77-year-old man who had previously undergone an Ivor Lewis esophagectomy for esophageal adenocarcinoma and subsequent laparoscopic repair with bio-mesh for hiatal hernia presented with abdominal pain, with cross-sectional imaging showing a significantly dilated gastric conduit within the right chest suggestive of a gastric outlet obstruction (Figs. 1 and 2). Despite initial conservative management followed by surgical revision, the patient continued to have severe stasis in the gastric conduit with minimal contrast passage and ultimately necessitated enteral feeding. An upper endoscopy was performed, which revealed significant stenosis of the distal gastric conduit with significant dilation of the stomach with stasis proximal to this region (Video 1, available online at www.videogie.org; Fig. 3). A through-the-scope 20-mm × 6-cm fully covered metal esophageal stent was successfully placed and was fixed with an over-the-scope stent fix clip to limit stent migration (Video 1, Fig. 4). Gastric plication was aborted because of a malfunctioning double-channel endoscope. Given the lack of symptom improvement 4 days later, a repeat endoscopy was performed and revealed the migration of the stent proximal to the stenosis, which was removed via placement of a 20- × 60-mm stent-in-stent (Video 1). The decision was made to

perform endoscopic plication to reshape the dysfunctional gastric conduit and improve gastric emptying. At first, a new through-the-scope 20-mm × 6-cm fully covered metal esophageal stent was placed, and then the gastric walls lateral to the dilated stomach were marked with argon plasma coagulation to serve as a marker for endoscopic suturing (Video 1, Fig. 5). Beginning in the distal stomach, 11 rows of running “line” sutures were placed. A total of 4 to 8 bites per suture were performed. U- and Z-shaped patterns were intentionally not performed to avoid further shortening of the conduit. After the completion of plication, the endoscope was easily able to be passed through the gastric conduit without looping. The patient was discharged home 3 days after the procedure and was seen in the clinic 3 weeks later, at which time he was tolerating a liquid diet without any abdominal pain or nausea. A repeat EGD was performed a month later and revealed a significantly less dilated gastric conduit and a patent metal stent (Video 1, Fig. 6). The stent was removed and 3 additional rows of running sutures were placed to correct the minimal angulation seen in the distal conduit. The patient followed up in clinic 2 weeks later and was tolerating a soft diet without recurrence of symptoms. An upper GI series was obtained 4 weeks later showing no evidence of obstruction or significant stenosis at the gastric conduit (Video 1, Fig. 7). The patient had gained 10 pounds 3 months after the procedure and was tolerating a soft diet without recurrence of symptoms.



Figure 1. Upper GI series showing severe stasis of contrast within the gastric conduit.

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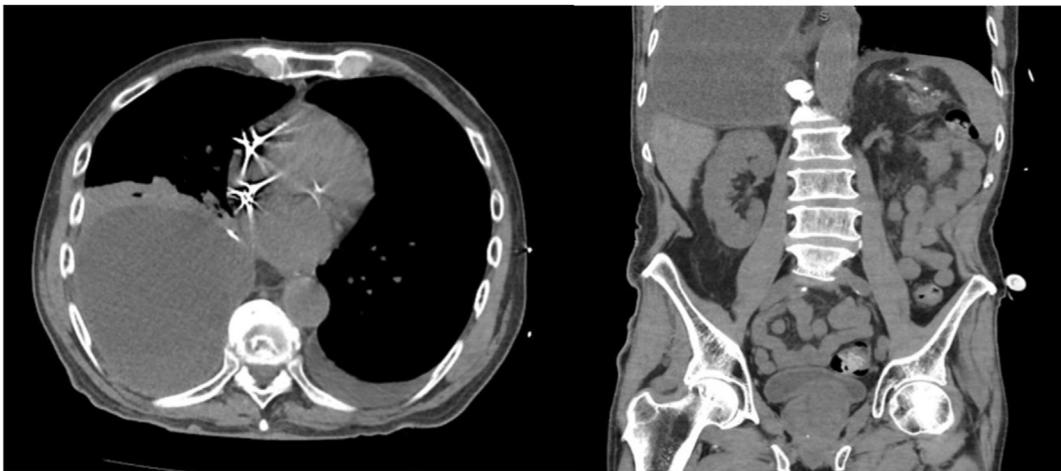


Figure 2. CT scan of the abdomen (transverse and coronal views) showing marked dilation of the distal portion of the gastric conduit.



Figure 3. Endoscopic image of the gastric conduit demonstrating severe luminal stenosis.

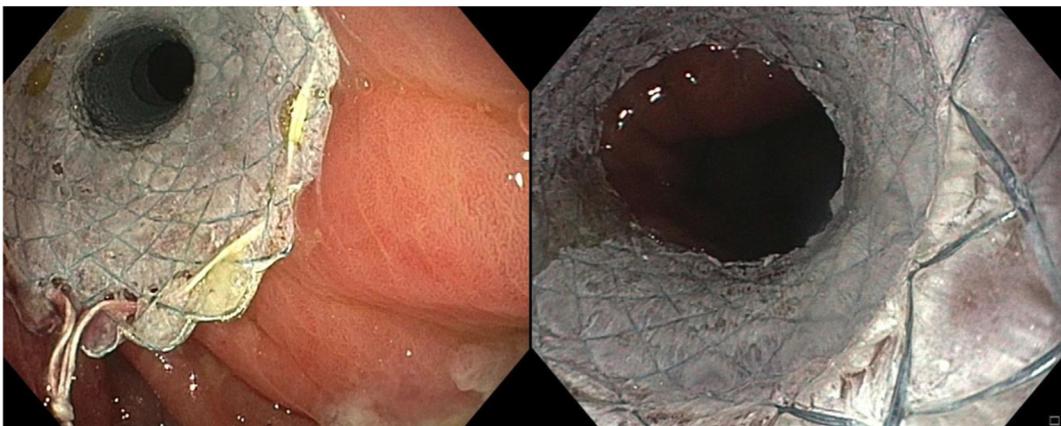


Figure 4. Successful placement of a fully covered metal esophageal stent across the gastric deformity.

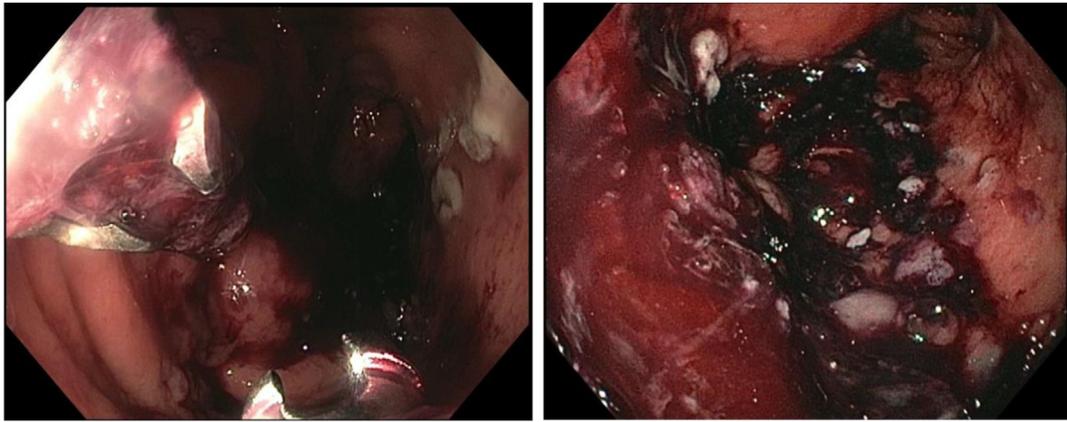


Figure 5. Endoscopic suturing was performed to reduce and remodel the dilated stomach.

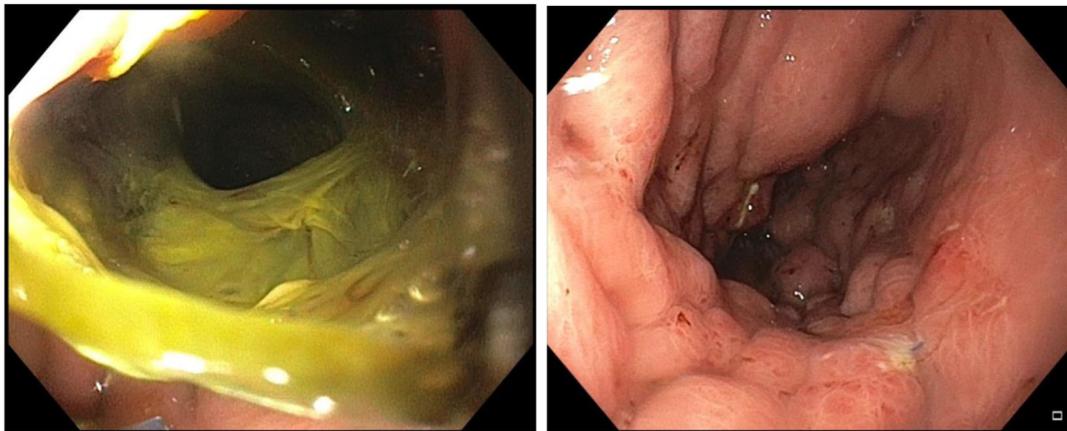


Figure 6. Repeat endoscopic visualization 4 weeks after initial plication shows a significantly less dilated and patent gastric conduit.



Figure 7. Repeat upper GI series showing passage of contrast into the small bowel without stenosis of the gastric conduit.

CONCLUSION

This case illustrates that endoscopic plication can be a feasible therapeutic modality for patients with obstructive symptoms in the setting of gastric conduit dysfunction.

DISCLOSURE

Dr Zuchelli is a consultant for Boston Scientific. The other authors did not disclose any financial relationships.

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