ORIGINAL ARTICLE

Endoscopic management of recurrent Zenker diverticula after failed surgical repairs

Sanjay Palat, MD,[1] Harsh Singh, MD,[2] Mahmoud Y. Madi, MD,[3] Ahmad Najdat Bazarbashi, MD[4]

INTRODUCTION

Zenker diverticulum (ZD) is an acquired pulsion of the posterior pharyngeal wall that results from increased pressure during swallowing, causing mucosal herniation between cricopharyngeal muscle fibers.[1] Historically, the primary treatment has been surgical techniques including rigid endostapling and open transcervical approaches.[2] However, these approaches lost popularity due to substantial rates of adverse events and recurrence.[3] Flexible endoscopic septotomy and Zenker peroral endoscopic myotomy (Z-POEM) have become increasingly common approaches, with robust data supporting their efficacy. Endoscopic septotomy is associated with shorter hospitalizations, earlier diet introduction, and fewer adverse events compared with the open approach.[4] Retrospective studies suggest Z-POEM is safe and effective in recurrent ZD following surgical intervention.[5] Although previous studies also suggest that safety and efficacy of flexible endoscopy in recurrent ZD is similar to treatment-naïve patients,[6] there remains a paucity of literature on patients treated endoscopically after failed surgery. We present a case in which a patient was treated with endoscopic septotomy of ZD after 2 unsuccessful surgeries.

CASE PRESENTATION

A 65-year-old man with ZD previously treated with transoral staple myotomy and subsequent revisional transcervical cricopharyngeal myotomy with diverticular imbrication after recurrence presented to our clinic with dysphagia, regurgitation, and weight loss. He noted symptom recurrence 1 month after revision surgery, with a barium esophagogram confirming recurrent ZD (Fig. 1). Although Z-POEM offers comparable results, given the scarring from prior surgeries, we anticipated that submucosal tunneling could be difficult and decided to proceed with flexible endoscopic Zenker septotomy (Video 1, available online at www.videogie.org).

Endoscopy demonstrated a large ZD with impacted food and staples from previous surgeries (Fig. 2). Orogastric (OG) tube placement was initially unsuccessful due to a

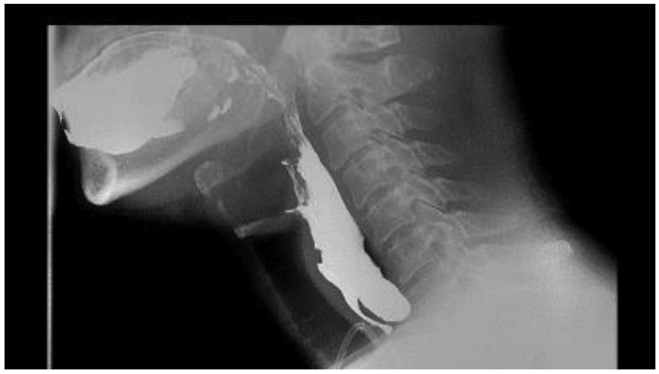

Figure 1. Preintervention barium esophagogram demonstrating large recurrent Zenker diverticulum despite prior surgical interventions.

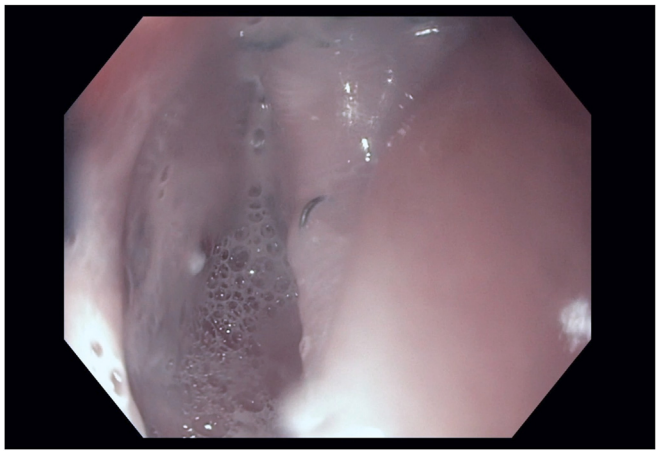

Figure 2. Preintervention appearance of the diverticulum, with staples from previous surgical intervention visible.

Abbreviations: OG, orogastric; ZD, Zenker diverticulum; Z-POEM, Zenker peroral endoscopic myotomy.

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Department of Medicine, Washington University School of Medicine, St. Louis, Missouri (1), Department of Internal Medicine, University of Nevada, Reno School of Medicine, Reno, Nevada (2), Division of Gastroenterology and Hepatology, Saint Louis University School of Medicine, St. Louis, Missouri (3), Division of Gastroenterology, Hepatology, and Endoscopy, Washington University School of Medicine, St. Louis, Missouri (4).

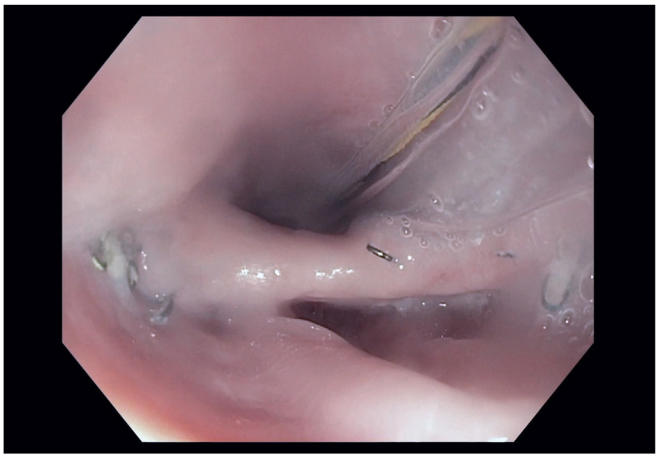

Figure 3. Orogastric tube was placed in the esophageal lumen to better visualize the diverticulum septum and to protect the esophageal wall.

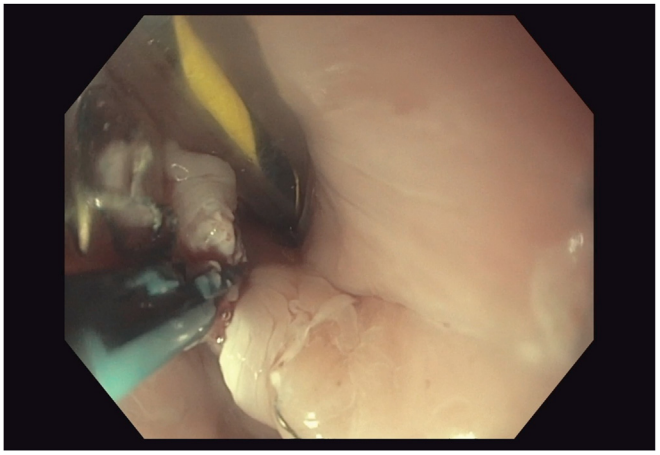

Figure 4. Septotomy was performed using a scissor-type electrocautery knife.

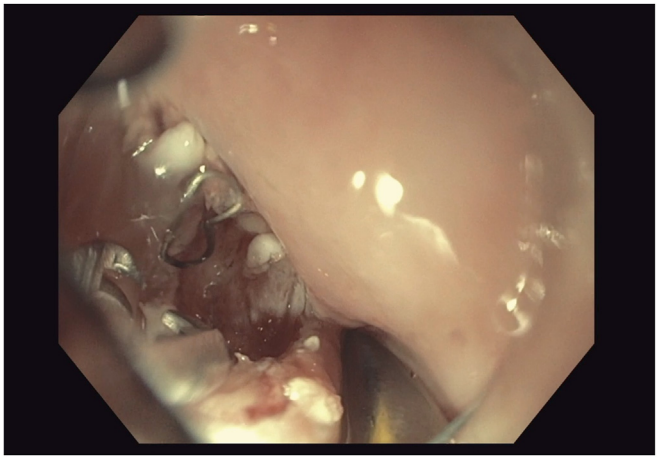

Figure 5. Rat-tooth endoscopy forceps were used to retrieve a staple that became dislodged during septotomy.

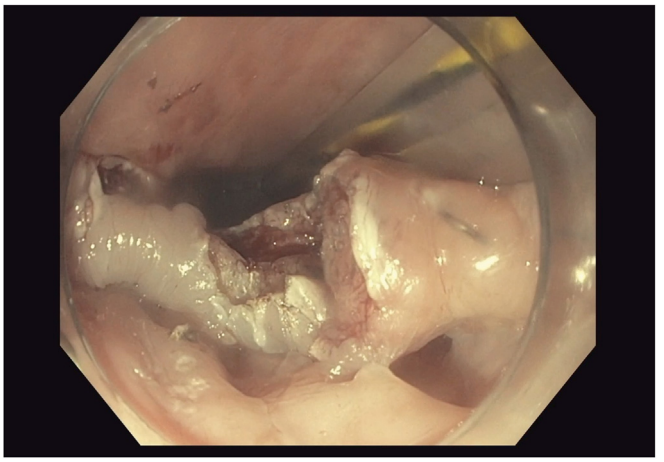

Figure 6. Appearance of the diverticular septum after dissection, with orogastric tube present in the esophageal lumen.

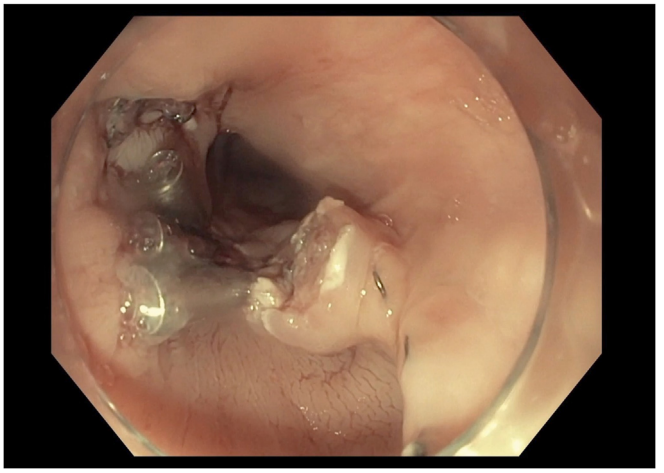

Figure 7. Final appearance of the diverticulum site after placement of hemostatic clips and removal of orogastric tube.

narrow esophageal lumen; a 0.035-inch guidewire was subsequently placed under direct visualization, and a 14F OG tube was placed over the wire (Fig. 3). Afterward, a scissor-type electrocautery knife (SB Knife Junior; Olympus America, Center Valley, Pa, USA) with 3.5-mm length and 4.5-mm opening width was used to perform the septotomy (Fig. 4). The setting used was Endocut Q, effect 1, duration 1, interval 1. The septotomy depth was determined by cutting the septum parallel to the diverticulum base, about 2 to 3 cm deep. The center of the septum was cut, as this was the safest point given prior interventions and staples. During dissection, a staple was dislodged but successfully retrieved using rat-tooth endoscopy forceps (Fig. 5). There was no evidence of bleeding (Fig. 6). Given the extent of scarring and higher risk of leak, 3 hemostatic clips were placed (Fig. 7). The OG tube was removed, and at the end of the procedure, the esophageal luminal diameter was significantly increased. Esophagogram 1 day

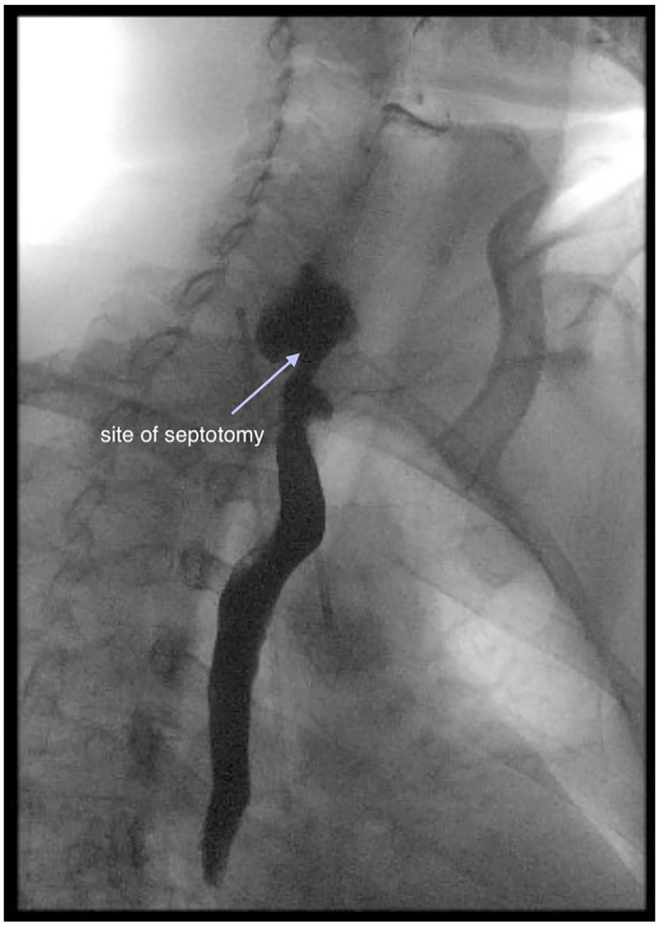

Figure 8. Postprocedural esophagogram demonstrates improved contrast flow past the site of the diverticulum.

after the procedure showed improved contrast flow past the diverticulum without evidence of leak (Fig. 8). At his follow-up visit 1 month later, the patient reported normal swallowing, resolution of regurgitation and gurgling, and tolerance of regular diet. When reached by the endoscopist 6 months after the procedure, he continued to report complete symptom resolution.

CASE SUMMARY

This patient had recurrent dysphagia secondary to ZD despite 2 prior surgeries. We demonstrated that endoscopic septotomy resulted in resolution of his symptoms and sustained response by the follow-up visit.

CONCLUSION

Our patient previously underwent transoral and transcervical surgical intervention with fairly rapid recurrence of symptoms, with the diverticulum visualized on a barium esophagogram. Endoscopic Zenker septotomy resulted in visually evident improvement in luminal diameter, and the patient continues to report complete resolution of symptoms with radiographic evidence of improvement. This case demonstrates that endoscopic septotomy is safe and feasible in treating ZD recurrent and refractory to surgical correction. Scarring and surgical staples may be encountered; however, the dissection plane is usually safe and similar to what is seen during septotomy as in initial therapy. There is a paucity of data on flexible endoscopic septotomies in patients with ZD refractory to surgical management. Future larger studies should evaluate the clinical efficacy of endoscopic septotomy in this patient population.

DISCLOSURE

The authors disclosed no financial relationships relevant to this publication.

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