

Peroral endoscopic myotomy in the presence of small esophageal varices



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INTRODUCTION

The coexistence of achalasia and esophageal varices is a rare occurrence and presents a challenging therapeutic dilemma. Although peroral endoscopic myotomy (POEM) remains an effective therapy for achalasia, its application in the context of cirrhosis and esophageal varices is seldom reported due to concerns about perioperative adverse events, including the risk of bleeding from varices within the submucosal space.¹⁻³ Herein, we present a video case demonstrating a successful POEM procedure in a patient with achalasia and cirrhosis complicated by esophageal varices (Video 1, available online at www.videogie.org).

CASE DESCRIPTION

A 58-year-old man with decompensated cirrhosis secondary to metabolic dysfunction-associated steatotic liver disease (Child-Pugh B) was referred for progressive symptoms of dysphagia to solids and liquids. His cirrhosis was complicated by small-volume ascites, mild hepatic encephalopathy despite treatment, and nonocclusive portal venous thrombus on warfarin. A barium esophagram and manometry demonstrated findings consistent with type 2 achalasia with an Eckardt score of 6 (Fig. 1). EGD demonstrated resistance at the gastroesophageal junction (GEJ) and multiple columns of

small (<5 mm) esophageal varices (Fig. 2). Despite undergoing EGD with 4-quadrant botulinum toxin injection and 18- to 20-mm through-the-scope balloon dilation, his symptoms recurred shortly after. After a multidisciplinary review with surgery and hepatology services, the decision was made to undergo POEM based on expert opinion that a more selective myotomy, while avoiding varices, could be performed compared with pneumatic dilation or Heller's myotomy. Pre-POEM variceal interventions such as banding and transjugular intrahepatic portosystemic shunt were not pursued, as submucosal fibrosis from banding could complicate submucosal tunneling, and transjugular intrahepatic portosystemic shunt could worsen his hepatic encephalopathy. Notably, the patient was already on nonselective beta-blockers.

Abbreviations: GEJ, gastroesophageal junction; POEM, peroral endoscopic myotomy.

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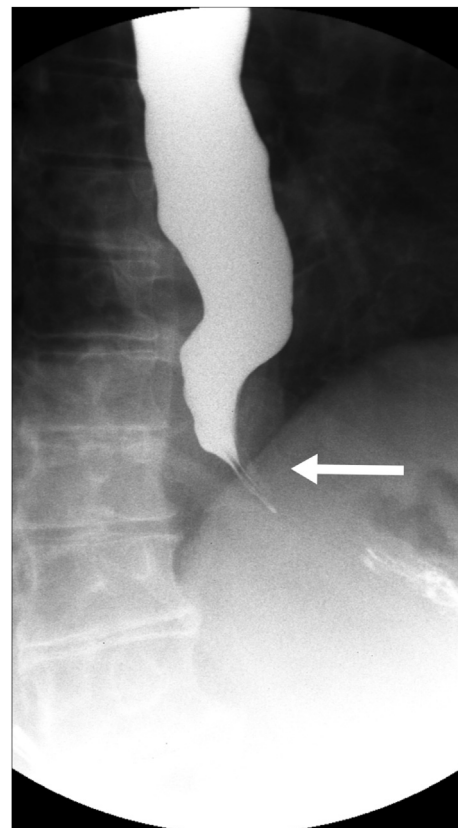


Figure 1. The barium esophagram demonstrated dilated esophagus with distal narrowing (bird's beak appearance) and delayed emptying of contrast into the stomach.

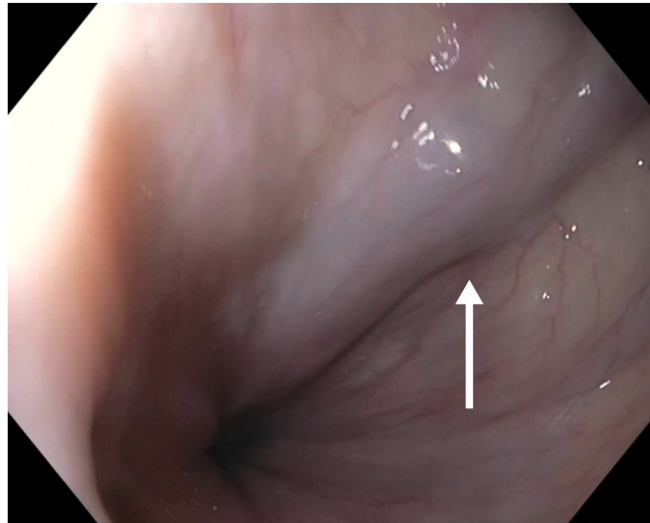


Figure 2. Pre-peroral endoscopic myotomy endoscopy showing small (<5 mm) esophageal varices (*arrow*).

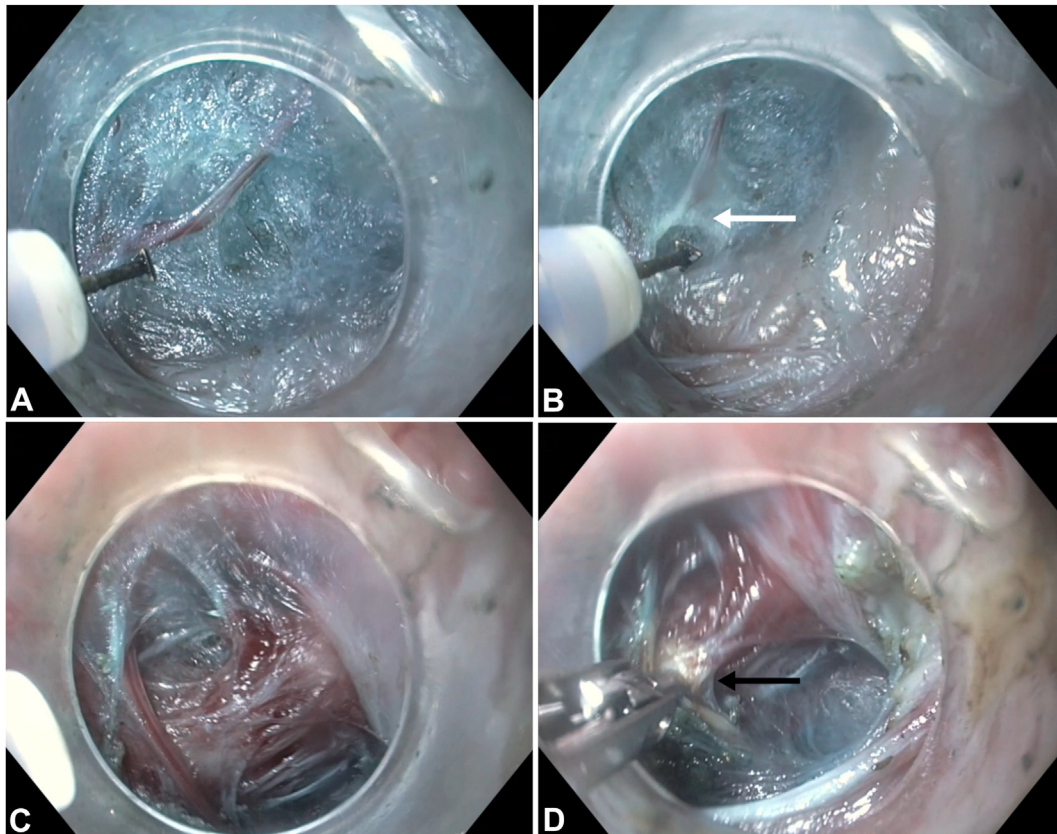


Figure 3. **A and C,** Feeding vessels are encountered frequently during submucosal tunneling and myotomy. **B and D,** Feeding vessels were pretreated with tip coagulation or coagulation graspers with resulting white-out appearance (*arrows*) to minimize bleeding risk.

POEM was performed after holding his warfarin for 5 days. A triangular-tip knife was used with the spray coagulation setting at 45 W, effect 4. Before mucosal incision, a single intravenous dose of octreotide 50 mcg and ceftriaxone 2 g

were given for reducing portal pressure and infection prophylaxis, respectively. Mucosal entry was chosen at 14 cm proximal to the GEJ, and a submucosal tunnel was created to 2 cm past the GEJ using a posterior approach. Esophageal

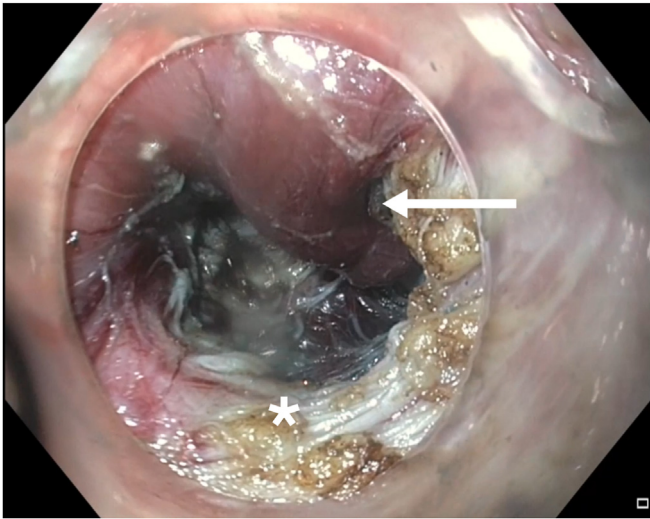


Figure 4. An esophageal varix (*arrow*) is seen in submucosal space during myotomy. Careful myotomy of inner circular muscles (*asterisk*) is performed while maintaining a safe distance from the varices.

varices were more prominent within the submucosa in the distal esophagus. Care was taken to coagulate any feeding vessels, and larger varices were avoided using injectates frequently to mitigate bleeding risks (Fig. 3). Selective myotomy of the inner circular muscles was performed at the lower esophageal sphincter to further minimize the risk of bleeding (Fig. 4). The mucosal entry was closed with through-the-scope clips, and the procedure was completed without adverse events. The patient was discharged after overnight monitoring with no adverse events. He was given 7 days of prophylactic antibiotic and instructed to restart warfarin 7 days after POEM. At the 12-month follow-up, he had an Eckardt score of 0 and no bleeding. EGD for variceal surveillance 6 months after POEM revealed 3 columns of large esophageal varices that were banded without difficulties.

DISCUSSION

This case, involving the coexistence of achalasia and esophageal varices, represents a rare and challenging scenario. Here,

we illustrate a successful POEM in the presence of esophageal varices, with measures taken to minimize the risk of bleeding. The use of a nonselective beta-blocker and octreotide aimed to reduce pressure within the varices.⁴ Alternatively, octreotide infusion can be an option, although its benefit could be limited due to tachyphylaxis.⁵ Creating a more proximal mucosal entry was critical, given that varices tend to be more prominent in the distal esophagus. Most importantly, adopting a slow and cautious approach during the submucosal tunnel and myotomy was crucial to avoid inadvertent variceal injury. Although pre-POEM variceal interventions, including band ligation, can be considered, it is important to note that postbanding stricture and submucosal fibrosis could complicate POEM and worsen achalasia symptoms.⁶

DISCLOSURE

Dr Shahidi receives speaker's honoraria from Boston Scientific and Pharmascience. Dr Lam receives speaker's honoraria from Olympus and Pharmascience. All other authors disclosed no financial relationships relevant to this publication.

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