

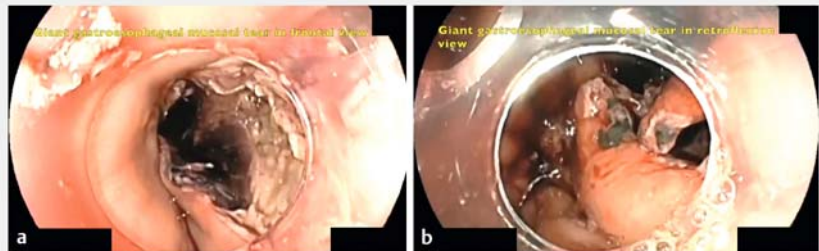
## Closure of a giant gastroesophageal mucosal tear after peroral endoscopic myotomy with over-the-scope clip and cyanoacrylate

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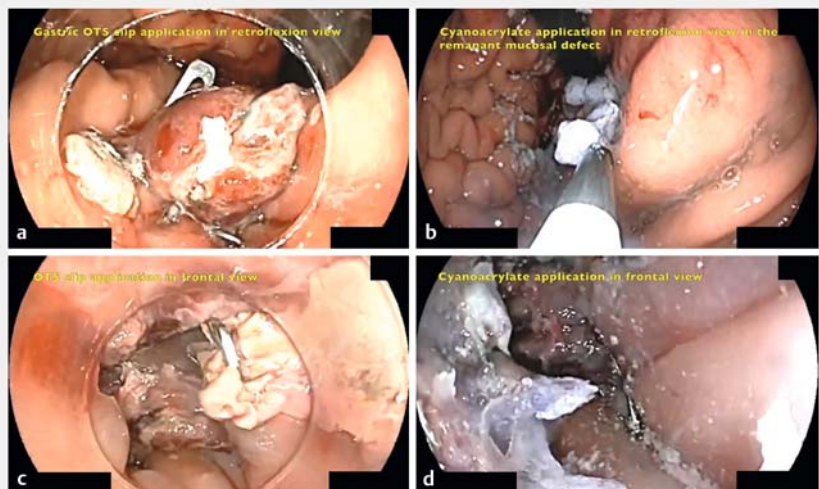
Insufflation-associated adverse events after peroral endoscopic myotomy (POEM) are frequent although innocuous in most of the patients [1–2]. However, mucosal injuries could lead to perforation, mediastinitis, or bleeding that could be potentially fatal if not treated appropriately. Hemoclips, over-the-scope (OTS) clips [3], fully covered self-expandable metal stents (FCSEMSs) [4], and cyanoacrylate [5] have been used as alternative treatments for these cases.

A 63-year-old woman with type II achalasia and an Eckardt score of 10 underwent a POEM procedure without complications. The patient was discharged at 48 hours on a liquid diet. However, at 72 hours she presented to the emergency department with nausea, hematemesis, tachycardia, retrogastric pain, and respiratory distress. An esophagogastroduodenoscopy (EGD) was performed after 3 hours showing a giant 6-cm esophagogastric tear including the distal esophagus, esophagogastric junction (EGJ), and 2 cm of the gastric side (► Fig. 1). Mechanical cleaning of clots and debris was performed. A gastrocutaneous-type OTS clip (Ovesco Endoscopy AG, Tübingen, Germany) was placed at the gastric side in retroflexion view and two more in the distal esophagus. Completion of the closure was performed with the injection of 1 cc of undiluted cyanoacrylate (Histoacryl; B-Braun Surgical, Tübingen, Germany) in the distal esophagus in frontal view and 1 cc in retroflexion view at the gastric side (► Fig. 2). Dehiscence of the entry site was observed and closure completed with hemostatic clips (Boston Scientific, Marlborough, Massachusetts, USA).

The patient was admitted to the intensive care unit (ICU) for observation and managed conservatively. Resolution of the systemic inflammatory response syndrome was observed at 48 hours after treatment. A second EGD was performed on the third day showing adequate



► Fig. 1 a Beginning of esophageal tear at distal esophagus. b Distal component including esophagogastric junction and gastric side.



► Fig. 2 a Over-the-scope (OTS) clip placement in retroflexion view. b Cyanoacrylate placement at remnant mucosal defect. c OTS clip placement in frontal view at distal esophagus. d Complementary cyanoacrylate application in distal esophagus mucosal tear.

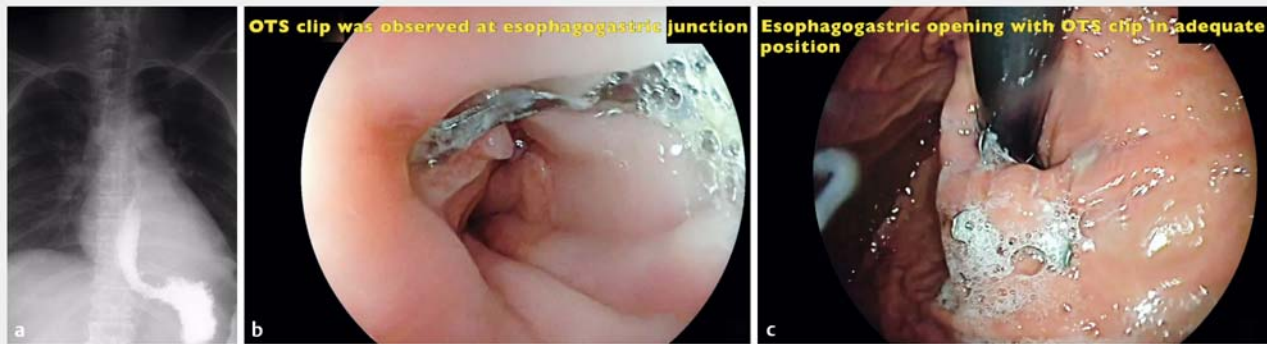
closure, and a water-soluble contrast esophagram on the fifth day showed adequate passage of contrast without leakage and the OTS clips in place. A liquid diet was started, and the patient discharged on the seventh day. Diet was progressed to a soft and then normal diet in the next 2 weeks.

A follow-up EGD was performed at 8 weeks showing a complete repair of the mucosal tear with the OTS clip in place and clinically an Eckardt score of 0 (► Fig. 3, ► Video 1).

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### Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 3** a Water-soluble contrast esophagram showing OTC clips in adequate place and no leakage on fifth day after placement. **b, c** OTC clips in place after 8 weeks of closure.



► **Video 1** Closure of a giant gastroesophageal mucosal tear after peroral endoscopic myotomy with over-the-scope clip and cyanoacrylate.



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Georg Thieme Verlag KG, Rüdigerstraße 14,  
 70469 Stuttgart, Germany



## The authors

**Oscar Víctor Hernández Mondragón, Luis Fernando García Contreras**

Division of Endoscopy, Specialties Hospital, National Medical Center Century XXI, Mexico City, Mexico

## Corresponding author

**Oscar Víctor Hernández Mondragón, MD**  
 Department of Endoscopy, Specialties Hospital, National Medical Center Century XXI, Cuauhtémoc Avenue 330, 06700 México City, México  
 mondragonmd@yahoo.co.uk

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