Use of cyanoacrylate to treat mucosal perforations during or after peroral endoscopic myotomy

Peroral endoscopic myotomy (POEM) is a safe and effective procedure for patients with achalasia [1]. Mucosal perforation is an inadvertent complication that is difficult or impossible to treat with standard clips [2]. Over-the-scope clips, endoluminal suturing devices, and fully covered stents have been used successfully [3, 4]. Cyanoacrylate is used as a sealant because of its rapid solidification rate [5]. We report on three patients who were treated successfully with cyanoacrylate following failure of standard closure.

Case 1: a 26-year-old woman underwent an uncomplicated POEM procedure but presented nausea, vomiting, and tachycardia 48 hours later. Endoscopy confirmed no leaks. The patient was discharged at 3 days later. Endoscopy 8 months later showed a small scar (Fig. 1).

Case 2: a 51-year-old woman underwent POEM and showed contrast leak into the submucosal tunnel 24 hours after the procedure. Conventional closure of the entry site with clips was performed. Esophagram 24 hours later showed contrast leaking into the submucosal tunnel at the level of the entry site. Conventional closure of this mucosal defect was unsuccessful. Cyanoacrylate was applied into the tunnel. No leak was observed on the subsequent esophagram. Endoscopy 1 month later showed adequate healing.

Case 3: a 40-year-old man underwent a difficult POEM procedure owing to the presence of submucosal fibrosis. He showed tearing of the mucosal entry site, which could not be closed with clips. Therefore, 3 mL of cyanoacrylate was applied successfully. The patient was discharged 48 hours later without complications (Fig. 2).

This is the first report of the use of cyanoacrylate glue to seal mucosal defects following peroral endoscopic myotomy. Conventional closure of the entry site with clips was performed. Esophagram 24 hours later showed contrast leaking into the submucosal tunnel at the level of the entry site. Conventional closure of this mucosal defect was unsuccessful. Cyanoacrylate was applied into the tunnel. No leak was observed on the subsequent esophagram. Endoscopy 1 month later showed adequate healing.
Competing interests: None

Oscar Víctor Hernández-Mondragón, Omar Michel Solórzano-Pineda, Gerardo Blanco-Velasco, Juan Manuel Blancas-Valencia
Department of Endoscopy, Specialties Hospital, National Medical Center, Century XXI, Mexico City, México

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