Acute gastric mucosal ischemic ulcer: a rare adverse result of peroral endoscopic myotomy

A 60-year-old man was referred complaining of dysphagia, retrosternal pain, and regurgitation after each meal over the previous 6 years, his symptoms having worsened in the previous year. He was diagnosed with achalasia following examination that included an esophagography (Fig. 1). We treated him by performing peroral endoscopic myotomy (POEM) [1]. With the patient under general anesthesia and in the supine position, a submucosal cushion was created on the anterior esophageal wall (2 o’clock position) using a mixture of glycerol solution and 0.01% epinephrine with indigo carmine, after a vertical mucosal incision had been made with a triangular tip knife (KD640L; Olympus Optical). A gastroscope was subsequently inserted into the submucosal space, and dissection was performed to create a submucosal tunnel that extended 3 cm beyond the esophagogastric junction (Fig. 2a, Fig. 2b). We subsequently performed selective myotomy of the inner circular muscle from the esophagus to the gastric cardia (Fig. 2c). Neither remark-
able bleeding nor a large vessel requiring further coagulation was encountered. We did however observe mucosal ischemic changes on the gastric cardia 1 hour after the submucosal tunnel had been created (Fig. 2d), by which time we had completed the succeeding myotomy and closed the mucosal entry with clips.

We administered intravenous broad-spectrum antibiotics and a proton pump inhibitor to the fasting patient. After further esophagography revealed no signs of perforation and his vital signs were stable, the patient resumed his diet without sequelae. A second-look endoscopy performed 1 month later revealed healing mucosa in the area of the previous lesion (Fig. 3).

We suggest that injury to the vessel supplying blood to the gastric cardia during submucosal tunneling in addition to the effect of the epinephrine likely resulted in acute mucosal ischemia. Although this is a rare adverse event, an endoscopist should avoid extending dissection in the submucosal layer and unnecessarily coagulating visible vessels during POEM.

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Chia-Wei Yang1, Bing-Yen Wang2, Kun-Ching Chou1, Hsu-Heng Yen1, Yang-Yuan Chen3

1 Department of Gastroenterology, Changhua Christian Hospital, Changhua, Taiwan
2 Division of Thoracic Surgery, Department of Surgery, Changhua Christian Hospital, Changhua, Taiwan
3 Department of Gastroenterology, China Medical University Hospital, Taichung, Taiwan

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Corresponding author
Chia-Wei Yang, MD
Department of Gastroenterology
Changhua Christian Hospital
Changhua
Taiwan
Fax: +886-7-7228289
97601@cch.org.tw