Aortoesophageal fistula (AEF) is a rare cause of catastrophic gastrointestinal bleeding. Thoracic aortic aneurysms are the leading cause of AEF [1]. Early diagnosis and prompt endovascular and/or surgical intervention before massive exsanguinating hemorrhage are key to survival [2]. Temporary endoscopic management with esophageal stent placement has been reported as a bridge therapy [3, 4].

We describe a case of AEF with active bleeding noted during an endoscopic examination that was treated with injection of N-butyl-2-cyanoacrylate (NBCA, Histocryl), followed by successful placement of an endovascular aortic stent graft.

A 69-year-old man with a history of ruptured diverticula that had been managed surgically presented to the emergency department with a 1-day history of chest pain and tarry stool, with hematemesis and hematochezia on the morning of admission. His heart rate was 95 beats/min and his blood pressure was 214/111 mmHg. Laboratory data showed a rapid decline in hemoglobin (13.1 g/dL to 10.2 g/dL in 3 hours). Emergent esophagogastroduodenoscopy (EGD) revealed a 3-cm submucosal mass lesion with a spurting vessel 26 cm from the incisors (Fig. 1a). Two milliliters of NBCA mixed with lipiodol was injected locally, achieving temporary hemostasis. Contrast-enhanced computed tomography of the chest disclosed a descending thoracic aortic aneurysm with a 5-mm AEF (Fig. 2).

Aorta angiography revealed a 5-mm aneurysm without active extravasation in the mid thoracic aorta (Fig. 3a). The thoracic aortic aneurysm was repaired with a Cook Zenith II (34 mm × 77 mm) stent graft without complications (Fig. 3b). EGD after stent grafting the same day showed a submucosal mass measuring 3 cm × 1.8 cm with an erosive lesion and NBCA coating (Fig. 1b).

Fig. 1  a Esophagogastroduodenoscopy (EGD) showing one 3-cm mass lesion with spurting bleeding 26 cm from incisors (arrow). b EGD after endovascular stent grafting, showing a submucosal mass measuring 3 cm × 1.8 cm with an erosive tip and N-butyl-2-cyanoacrylate coating (arrow).

Fig. 2  a Chest CT showing a 5-mm saccular aneurysm on the anterior wall of the mid descending thoracic aorta, consistent with aortoesophageal fistula. A high-attenuation lesion in the mid esophagus abutting the aortic aneurysm is consistent with a deposition of N-butyl-2-cyanoacrylate with lipiodol (arrow). b Three-dimensional volume-rendered CT angiogram of thoracic aorta revealing a sacular aneurysm (arrow) protruding into the esophagus.
After stent grafting, the patient suffered from intermittent episodes of chest and back pain. Intravenous broad-spectrum antibiotics were administered for a total of 8 weeks, followed by oral antibiotics. The patient recovered and remained healthy at 8 months follow-up.

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Competing interests: None

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Fig. 3 a Aortogram showing a 5-mm aneurysm (arrow) from the mid thoracic aorta just below the carina without active extravasation into the esophagus. b After stent grafting, the aneurysm has disappeared.