

Successful management of aorto-esophageal fistula by combining endoscopic cyanoacrylate injection and endovascular stent grafting

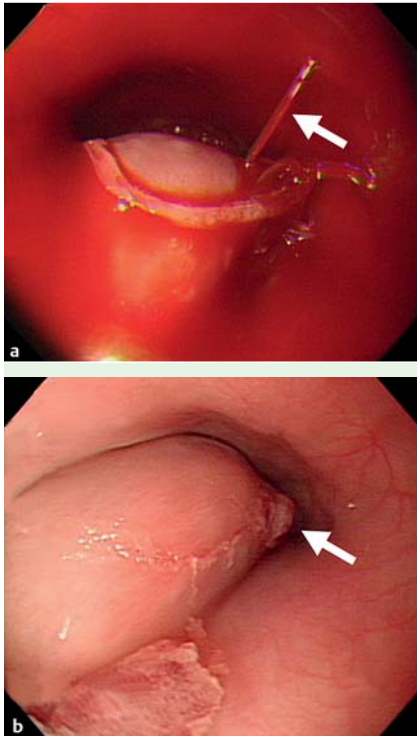


Fig. 1 **a** Esophagogastroduodenoscopy (EGD) showing one 3-cm mass lesion with spurting bleeding 26 cm from incisors (arrow). **b** EGD after endovascular stent grafting, showing a submucosal mass measuring 3 cm × 1.8 cm with an erosive tip and *N*-butyl-2-cyanoacrylate coating (arrow).

Aorto-esophageal 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, Histoacryl), 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 hema-

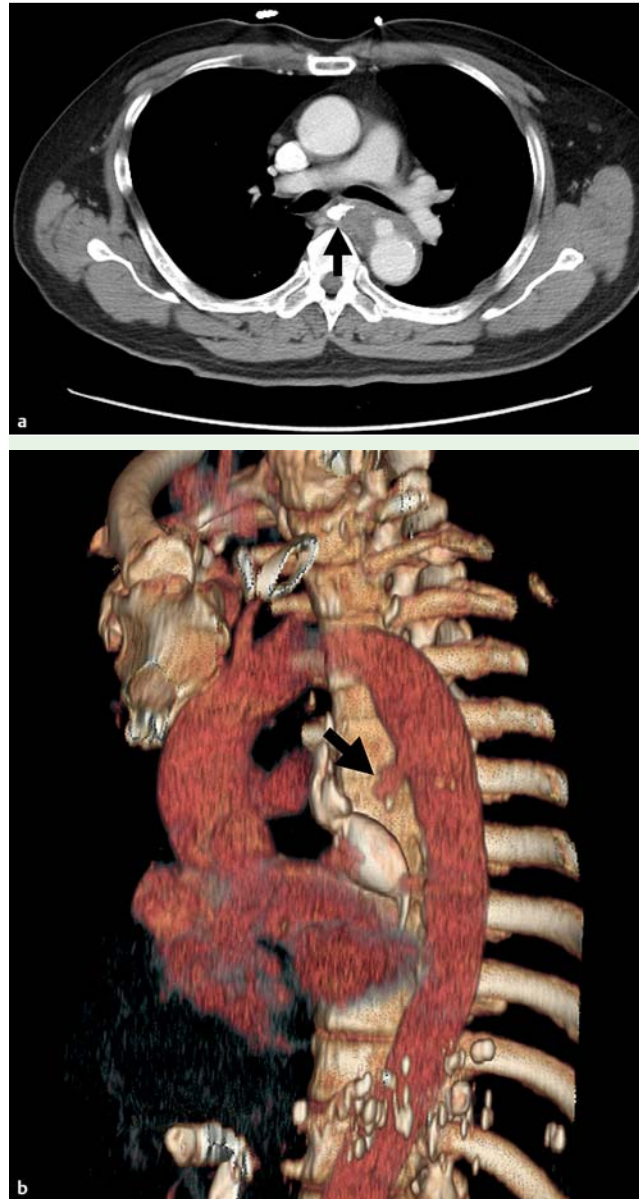


Fig. 2 **a** Chest CT showing a 5-mm sacular aneurysm on the anterior wall of the mid descending thoracic aorta, consistent with aortic-esophageal fistula. A high-attenuation lesion in the mid esophagus abutting the aortic aneurysm is consistent with a deposition of *N*-butyl-2-cyanoacrylate with lipiodol (arrow). **b** Three-dimensional volume-rendered CT angiogram of thoracic aorta revealing a sacular aneurysm (arrow) protruding into the esophagus.

temesis and hemochezia 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. 1 a). 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. 3 a). The thoracic aortic aneurysm was repaired with a Cook Zenith II (34 mm × 77 mm) stent graft without complications (• Fig. 3 b). 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. 1 b).



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.

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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