Successful management of aortoesophageal fistula by combining endoscopic cyanoacrylate injection and endovascular stent grafting

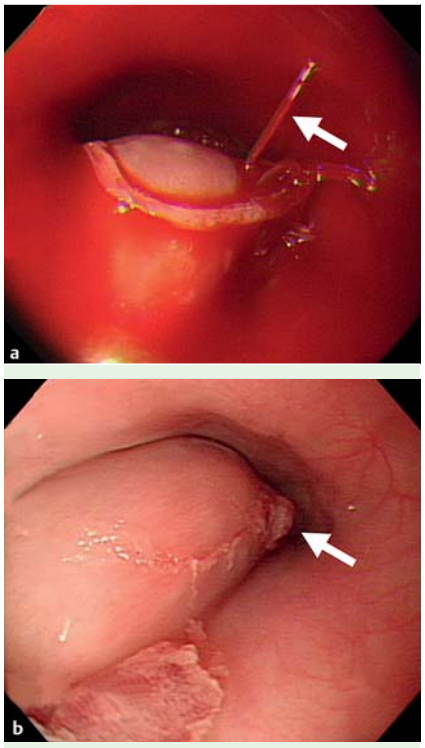

Fig. 1 **a** Esophagogastroduodenoscopy (EGD) showing one 3-cm mass lesion with spurting bleeding 26 cm from incisors (arrow). **b** EGD after endovascular stent grafting, showing a submucosal mass measuring 3 cm × 1.8 cm with an erosive tip and *N*-butyl-2-cyanoacrylate coating (arrow).

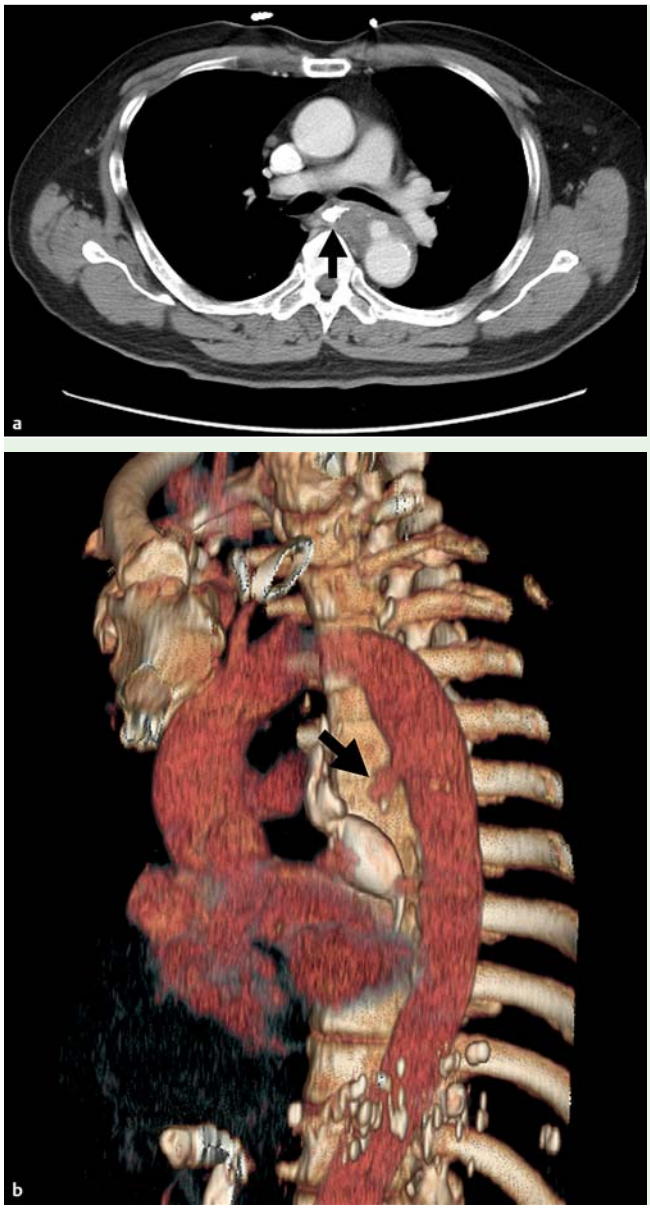

Fig. 2 **a** Chest CT showing a 5-mm saccular aneurysm on the anterior wall of the mid descending thoracic aorta, consistent with aortic-esophageal fistula. A high-attenuation lesion in the mid esophagus abutting the aortic aneurysm is consistent with a deposition of *N*-butyl-2-cyanoacrylate with lipiodol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

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, 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 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**).

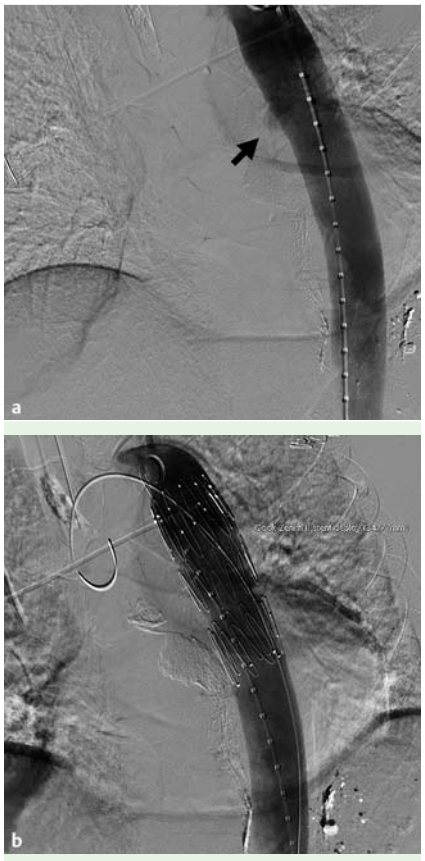

Fig. 3 **a** Aortogram showing a 5-mm aneurysm (arrow) from the mid thoracic aorta just below the carina without active extravasation into the esophagus. **b** After stent grafting, the aneurysm has disappeared.

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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References

1 *Léobon B, Roux D, Mugniot A et al.* Endovascular treatment of thoracic aortic fistulas. Ann Thorac Surg 2002; 74: 247 – 249
2 *Topel I, Stehr A, Steinbauer MG et al.* Surgical strategy in aortoesophageal fistulae: endovascular stentgrafts and in situ repair of the aorta with cryopreserved homografts. Ann Surg 2007; 246: 853 – 859
3 *Park DH, Park JH, Lee SH et al.* Temporary placement of a covered metal stent for the management of a bleeding aortoesophageal fistula. Endoscopy 2007; 39 (Suppl 1): E61 – E62
4 *Zuber-Jerger I, Hempel U, Rockmann F et al.* Temporary stent placement in 2 cases of aortoesophageal fistula. Gastrointest Endosc 2008; 68: 599 – 602

Bibliography

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