Fatal aortic hemorrhage after over-the-scope clipping and subsequent esophageal stenting for sealing of iatrogenic esophageal perforation

Endoscopic fixation using over-the-scope clips (OTSCs) is mostly done to prevent migration of esophageal stents placed in the absence of a stenosis [1–4]. Additional stenting of areas treated with OTSCs has not yet been described.

During fundoplication in a 64-year-old woman, intact esophageal submucosa was exposed. The area was covered by the fundoplication cuff. On postoperative Day 8, endoscopy showed a 3-mm esophageal leak proximal to the fundoplication cuff. It was closed using an OTSC. In addition, a self-expandable, fully covered, removable stent (SX-ELLA Danis; Ella-CS, Hradec Kralove, Czech Republic) was positioned over the closed leak to reinforce the esophageal wall at this weak point. The stent was not fixed, and 7 days later endoscopy showed slight stent dislocation. With the help of the purse string, the stent was repositioned 5 cm in the proximal direction. Sepsis developed after 5 days, but there was no detectable leakage of contrast medium on computed tomography (CT) scan. The following day, the patient had sudden massive hematemesis and underwent emergency transfer to our hospital.

Emergency surgery revealed that the clip had rotated by almost 180 degrees and protruded toward the aorta, causing an irreparable esophagoaortic fistula (Fig. 1). Emergency esophagectomy was performed to expose the aorta for repair. However, the aortic wall had become weakened by inflammation and necrosis, and could not be closed by any of the techniques available for vascular and cardiac surgery.

The resected specimen showed that the rotation of the clip had migrated in part through the esophageal leakage (Fig. 2, Fig. 3). In addition, a second leak, which was well covered by the stent, was present. In retrospect, the rotation of the clip was visible on the CT scan (Fig. 4). In this case of esophageal stenting after OTSC clipping, the branches of the clip presumably engaged with the stent mesh, which caused its rotation when the stent was deployed. The inflammatory process following leakage caused additional weakening of the aorta. Stenting of clipped areas does not seem to be advisable.

Endoscopy_UCTN_Code_CPL_1AH_2AJ

Competing interests: None

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Endoscopy 2015; 47: E280–E281
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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