Radiosurgical endoscopy: fluoro-endoscopically guided percutaneous placement of a catheter for drainage of a complicated intrathoracic anastomotic septic collection

Fig. 1 Percutaneous placement of a catheter for drainage of a complicated intrathoracic anastomotic septic collection. Endoscopy shows an anastomotic leakage.

An 84-year-old man underwent abdominothoracic esophagectomy with gastric pull-up and an intrathoracic stapled anastomosis for advanced cancer of the cardia with involvement of the distal esophagus. A contrast study at 1 week after surgery detected anastomotic leakage. Endoscopy showed intermediate anastomotic leakage (● Fig. 1), and a 23×125-mm WallFlex FC stent (Boston Scientific, Natick, Massachusetts, USA) was placed [1]. A persistent purulent efflux from the chest drains was observed, and computed tomography (CT) revealed a 30×20-mm encapsulated peri-anastomotic septic collection in the mediastinum. The stent was checked for migration and removed, and a persistent small leak was detected (● Fig. 3a). Because of continued contamination of the mediastinum through the leak, adequate drainage of the peri-esophageal mediastinum was needed, with endoscopic closure of the dehiscence. Under fluoroscopic control and endoscopic guidance, a hydrophilic guidewire was advanced percutaneously and grasped with a snare inserted endoscopically through the esophageal side of the fistula into the collection (● Fig. 2a). A biliary balloon catheter was passed through the scope into the cavity, and the percutaneous access to the collection was dilated to 10 mm (● Fig. 2b). A 10.2-Fr drainage catheter was placed on the guide-

Fig. 2 **a** Under fluoroscopic control and endoscopic guidance, a hydrophilic guidewire is advanced percutaneously and grasped with a snare inserted endoscopically through the esophageal side of the fistula. **b** The percutaneous access to the collection is dilated to 10 mm with a biliary balloon catheter. **c** A 10.2-Fr drainage catheter is placed on the guidewire and advanced through the skin into the collection. **d** Computed tomography is used to assess the adequacy of percutaneous drainage.

wire and advanced through the skin into the collection and left in situ for 4 weeks (● Fig. 2c, ● Video 1) [2–3]. The adequacy of percutaneous drainage was assessed with CT (● Fig. 3d). The anastomotic residual leak was closed endoscopically by inserting Vicryl mesh with fibrin glue (● Fig. 3b,c) [4]. Complete healing was achieved after three treatment sessions. The catheter was removed when the daily output diminished to less than 10 mL/d. CT at 4 weeks showed stranding in the region of the previous collection without recurrence.

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Competing interests: None

Video 1

A 10.2-Fr drainage catheter is placed on the guidewire and advanced through the skin into the collection.

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Fig. 3 **a** The stent is checked for migration and removed, and a persistent small leak is detected (arrow). **b, c** The anastomotic residual leak is closed endoscopically by inserting Vicryl mesh with fibrin glue.

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