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

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 (Fig. 2a). The percutaneous access to the collection was dilated to 10 mm with a biliary balloon catheter. A 10.2-Fr drainage catheter was placed on the guidewire and advanced through the skin into the collection (Fig. 2c). 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

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

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.

Fig. 3  a The anastomotic residual leak was closed endoscopically by inserting Vicryl mesh with fibrin glue. b Computed tomography at 4 weeks showed stranding in the region of the previous collection without recurrence.

Video 1

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

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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.