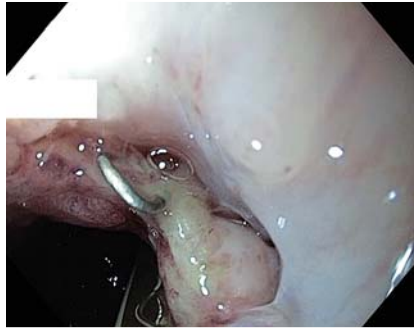


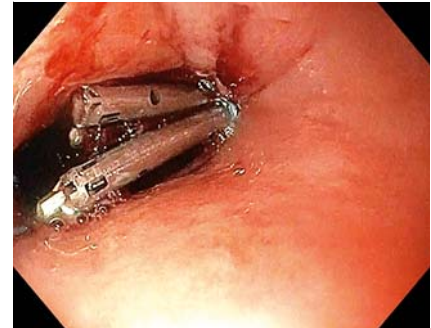
Endoscopic management of postesophagectomy leak with modified clip-and-loop technique



► **Fig. 1** Computed tomogram of the chest showing leakage from the anastomotic site (arrow).



► **Fig. 2** Upper gastrointestinal endoscopy showing dehiscence at the anastomotic site, approx. 1 cm in size.



► **Fig. 3** Defect closed completely using a modified clip-and-loop technique.

A 75-year-old woman with carcinoma of the lower esophagus underwent esophagectomy with proximal gastrectomy. On the 6th day after surgery, she developed breathlessness with chest pain and high-grade fever. Computed tomography (CT) of the chest showed a leak from the anastomotic site tracking into the right pleura (► **Fig. 1**). Upper gastrointestinal endoscopy showed dehiscence of approximately 1 cm at the anastomotic site (► **Fig. 2**). After multidisciplinary discussion, endoscopic rent closure was planned. The edges of the defect were ablated using argon plasma coagulation. Due to angulation, complete apposition of the defect using clips was not feasible. Resolution clips (Boston Scientific, Marlborough, Massachusetts, USA) were applied to the edges of the defect. An endoloop (Olympus Medical, Tokyo, Japan) was applied to tie the clips together to close the defect completely (► **Video 1**) (► **Fig. 3**). There was a decrease in the right pleural drain output, with contrast swallow showing no leak on day 5 (► **Fig. 4**). Repeat endoscopy on day 14 showed a completely healed defect at the anastomotic site (► **Fig. 5**).

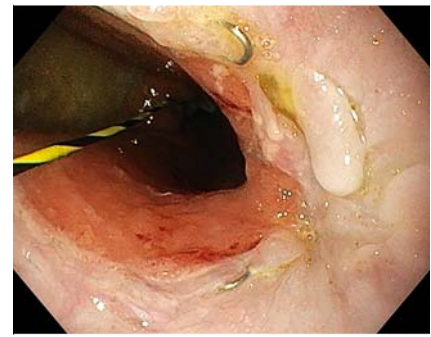
The “loop clip” technique for closure of defects after endoscopic submucosal dissection was initially described by Sakamoto et al. in 2008, where a loop is attached to the edges of a defect with



► **Video 1** Closure of postesophagectomy leak using a modified clip-and-loop technique.



► **Fig. 4** Contrast swallow on day 5 showed no leak.



► **Fig. 5** Completely healed defect at the anastomotic site on day 14.

clips and subsequently tightened to close the defect [1, 2]. Other techniques that have been described for gastrotomy closure are the King technique and Queen technique [3, 4], in which a double-channel endoscope or multiple loops are required. The modified clip-and-loop technique we used has been described by Luigiano et al. for closure of tracheoesophageal fistula [5]. In our patient the size of the defect was small, making it difficult to attach a loop to the edges of the defect. Complete closure using clips was difficult due to the angulation and free lower edge. Hence the clips were tied together to ensure approximation and complete closure of the defect.

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Competing interests

The authors declare that they have no conflict of interest.

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