

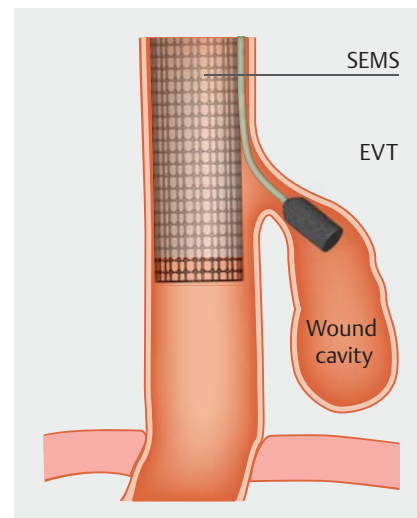
## Stent-over-sponge (SOS): a rescue option in patients with complex postoperative anastomotic leaks after esophagectomy

Anastomotic leak after Ivor Lewis esophagectomy remains a life-threatening complication. Self-expandable metal stents (SEMSs) are one established endoscopic treatment option [1], but endoscopic vacuum therapy (EVT) has become a promising alternative [2]. Currently, there is no conclusive evidence to suggest that one of these options is superior [3]. However, the combination of SEMS with EVT seems to be another suitable therapeutic option for treating complex leaks [4]. The SEMS optimizes the vacuum force by sealing the sponge toward the gastrointestinal lumen and maximizing the suction efficacy (► **Fig. 1**) [5].

We present the case of a 60-year-old man who underwent neoadjuvant chemotherapy followed by Ivor Lewis esophagectomy for adenocarcinoma of the distal esophagus. On the eighth postoperative day the patient showed clinical signs of sepsis and an upper endoscopy showed a semicircular esophagogastric anastomotic dehiscence and a large mediastinal abscess cavity (► **Fig. 2**, ► **Video 1**).

EVT was performed and a sponge (EsoSPONGE; Aesculap AG, Tuttlingen, Germany) was placed in the abscess cavity. To ensure enteral feeding, a diverted nasogastric tube (Freka Trelumina; Fresenius Kabi, Bad Homburg, Germany) was inserted. The first follow-up endoscopy on Day 4 after initiation of EVT showed an unchanged cavity, so we placed two sponges. The second follow-up endoscopy (Day 7) showed continued poor healing; consequently, we decided to perform stent-over-sponge (SOS) therapy to accelerate the healing process.

At third follow-up endoscopy (Day 15), the sponges and SEMS (Ultraflex; Boston Scientific, Marlborough, Massachusetts, USA) were removed. A remarkable improvement in the healing process was observed, with a small, clean, and encapsulated cavity. SOS was terminated and a computed tomography scan the following day confirmed the improvement. A fourth endoscopy (Day 21) showed the small encapsulated cavity, and an additional SEMS was placed to seal the entrance of the cavity. Aspiration pneumonia delayed hospital discharge. At the fifth follow-up endoscopy (Day 46) the



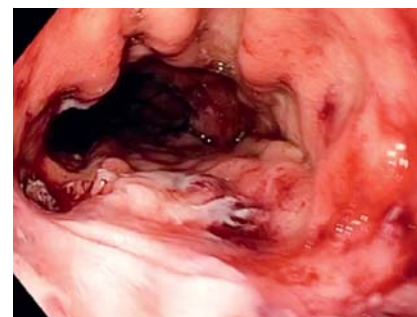
► **Fig. 1** Schema of stent-over-sponge method. EVT, endoscopic vacuum therapy; SEMS, self-expandable metal stent.



► **Fig. 2** Complex large cavity in the mediastinum.



► **Video 1** The stent-over-sponge rescue method for complex postoperative anastomotic leaks after esophagectomy.



► **Fig. 3** Sealed leak of the esophagogastric anastomosis.

SEMs was removed and a completely healed esophagogastric anastomosis was revealed (► **Fig. 3**). The patient was discharged 2 days later.

Endoscopy\_UCTN\_Code\_TTT\_1AO\_2AI

### Competing interests

None

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DOI <https://doi.org/10.1055/a-0885-9659>  
 Published online: 2.5.2019  
*Endoscopy* 2019; 51: E227–E228  
 © Georg Thieme Verlag KG  
 Stuttgart · New York  
 ISSN 0013-726X

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