

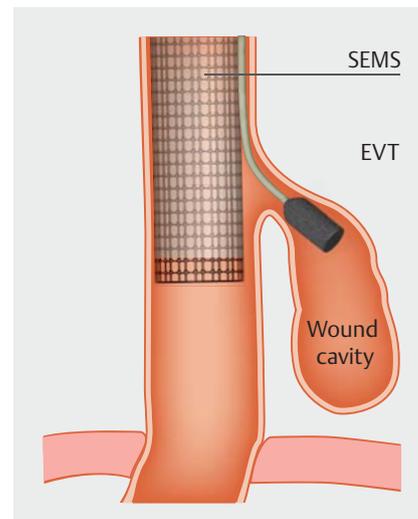
Stent-over-sponge (SOS): a rescue option in patients with complex postoperative anastomotic leaks after esophagectomy

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. 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



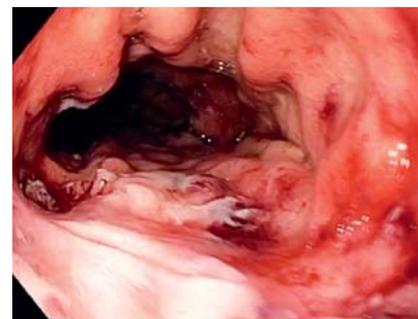
► **Fig. 1** Schema of stent-over-sponge method. EVT, endoscopic vacuum therapy; SEMS, self-expandable metal stent.



► **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

The authors

Isabel Bartella¹, Christoph Mallmann¹, Martin Bürger², Ulrich Toex², Tobias Goeser², Christiane Bruns¹, Seung-Hun Chon¹

- 1 Department of General, Visceral and Cancer Surgery, University Hospital of Cologne, Cologne, Germany
- 2 Department of Gastroenterology and Hepatology, University Hospital of Cologne, Cologne, Germany

Corresponding author

Seung-Hun Chon, MD

Department of General, Visceral and Cancer Surgery, University Hospital of Cologne, Kerpener Str. 62, 50937 Cologne, Germany
 Fax: +49-221-47886227
 seung-hun.chon@uk-koeln.de

References

- [1] Plum PS, Herbold T, Berlth F et al. Outcome of self-expanding metal stents in the treatment of anastomotic leaks after Ivor Lewis esophagectomy. *World J Surg* 2019; 43: 862–869
- [2] Bludau M, Fuchs HF, Herbold T et al. Results of endoscopic vacuum-assisted closure device for treatment of upper GI leaks. *Surg Endosc* 2018; 32: 1906–1914
- [3] Berlth F, Bludau M, Plum PS et al. Self-expanding metal stent versus endoscopic vacuum therapy on anastomotic leak treatment after oncologic gastroesophageal surgery. *J Gastrointest Surg* 2019; 23: 67–75
- [4] Gubler C, Schneider PM, Bauerfeind P. Complex anastomotic leaks following esophageal resections: the new stent over sponge (SOS) approach. *Dis Esophagus* 2013; 26: 598–602

- [5] Vallo P, Mertens J, Kröger A et al. Stent-over-sponge (SOS): a novel technique complementing endosponge therapy for foregut leaks and perforations. *Endoscopy* 2018; 50: 148–153

Bibliography

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

ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



Endoscopy E-Videos is a free access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online.

This section has its own submission website at <https://mc.manuscriptcentral.com/e-videos>