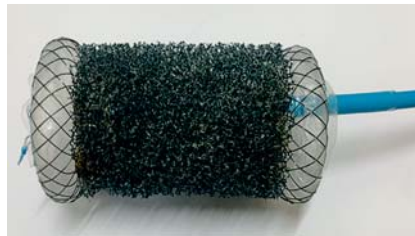


## VACStent: a new option for endoscopic vacuum therapy in patients with esophageal anastomotic leaks after upper gastrointestinal surgery

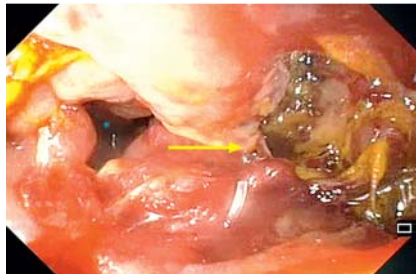
Esophageal anastomotic leaks remain a life-threatening postoperative complication of upper gastrointestinal surgery. In Germany, self-expandable metal stents (SEMS) and endoscopic vacuum therapy (EVT) are established endoscopic treatment options [1,2], but no evidence points to the superiority of either of these [3]. Consequently, new approaches aim to combine both procedures [4, 5]. One available medical device that combines EVT (sealing and drainage) with SEMS treatment (sealing and food passage) is a fully covered SEMS coated with a polyurethane foam (VACStent; Möller Medical GmbH, Fulda, Germany) (► Fig. 1). To our knowledge, this is the first report on using a hybrid SEMS for treating an esophageal anastomotic leak (► Video 1).

A 61-year-old man with an esophageal anastomotic leak (► Fig. 2) had undergone previous total gastrectomy for a signet cell carcinoma of the stomach. On the 16th postoperative day (POD), the patient was admitted to our hospital in a septic condition, having been treated unsuccessfully with an over-the-scope clip (Ovesco Endoscopy AG, Tübingen, Germany). We performed an endoscopy (POD 16) and discovered a semicircular anastomotic leak of the esophagojejunostomy with an abscess cavity. We removed the clip and applied a VACStent (125 mmHg negative pressure) to treat the leak. A computed tomography scan with oral contrast (► Fig. 3) confirmed sealing of the leak so that oral intake of fluids was possible.

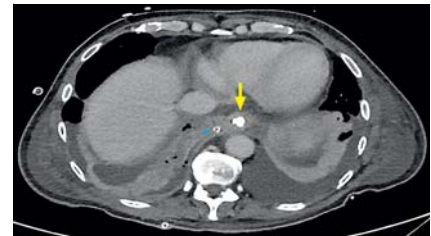
The following endoscopy (POD 18) demonstrated a healing tendency; consequently, we placed a second VACStent. After VACStent removal (POD 22), we observed a sealed leak with a small and



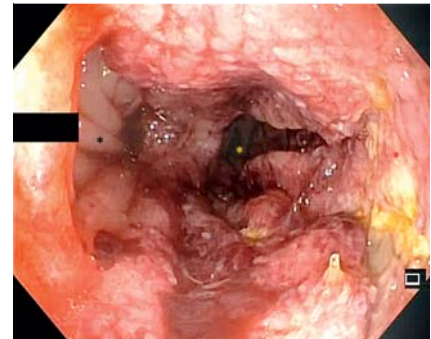
► Fig. 1 VACStent: a fully covered, self-expandable metal stent (dimension 30 × 15 × 70 mm) coated with polyurethane foam and connected to a tube (blue).



► Fig. 2 View of the esophagojejunal anastomosis: jejunum (blue asterisk) and anastomotic leak area (yellow arrow).



► Fig. 3 Axial computed tomography with oral contrast showed complete sealing of the leak by the VACStent (yellow arrow) with a thoracic drain (asterisk).



► Fig. 4 The sealed leak of the esophagojejunal anastomosis: blind loop jejunum (black asterisk), jejunum (yellow asterisk), and granulation of the wound cavity (red asterisk).

encapsulated wound cavity (► Fig. 4). A digestive swallowing test confirmed the sealing. Although the postoperative course was delayed because of pulmonary complications, the patient was discharged (POD 39) (► Fig. 5) with full oral intake and no clinical signs of a residual anastomotic leak.

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### Competing interests

None



► Fig. 5 Follow-up endoscopy 17 days after VACStent explantation.



**Video 1** Successful treatment of an esophageal anastomotic leak after gastrectomy with a novel hybrid stent.

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