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 by the VACStent (yellow arrow) with a thoracic drain (asterisk). 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.

Endoscopy_UCTN_Code_TTT_1AO_2AI

Competing interests

None

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).

Fig. 5 Follow-up endoscopy 17 days after VACStent explantation.
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DOI https://doi.org/10.1055/a-1047-0244
Published online: 2019
Endoscopy
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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