

A novel approach to esophageal stent removal in the setting of proximal stenosis and failure of the primary retrieval mechanism

A 75-year-old woman was admitted for the extraction of an esophageal fully covered metal stent (upper esophageal sphincter stent [80×20mm]; Leufen Medical, Berlin, Germany). The stent had been implanted 5 weeks earlier to treat an esophageal perforation sustained during bougienage of a benign proximal esophageal stenosis.

The location of the stent was distal to the stricture, so that only a transnasal endoscope (EG-530NW [5.1-mm outer diameter and 2.0-mm working channel]; Fujifilm Europe, Düsseldorf, Germany) could be passed. Only a small biopsy forceps (FB-21K-1; Olympus, Tokyo, Japan) was available for stent manipulation. The upper retrieval loop of the stent was grasped with the forceps, but the loop was destroyed while traction was applied to remove the stent.

Using a biopsy forceps, we carried a 0.035-in guidewire (Jagwire; Boston Scientific, Natick, Massachusetts, USA) into the esophagus parallel to the endoscope. The guidewire was pushed through the distal retrieval loop (● Fig. 1 a, b) and then grasped with the forceps on the other side of the loop (● Fig. 2). Subsequently, the guidewire was pulled out through the patient's mouth, forming a loop (● Fig. 3). With traction applied to the guidewire loop, the stent was now removed from the esophagus by inversion (peeled away) (● Fig. 4, ● Video 1).

Several techniques have been described as alternatives to stent removal with a proximal retrieval loop. Retrieval of a stent from the stomach with a polypectomy snare (lasso technique) is used mostly when a stent has migrated, and in our case, it would have been necessary to use traction first to move the stent into the stomach [1]. Inversion of the stent, as in our case, reduces the shearing forces on the surrounding esophageal tissue and has been described previously [2,3].

Video 1

With traction applied to the guidewire loop, the stent is removed from the esophagus by inversion ("peeled away").

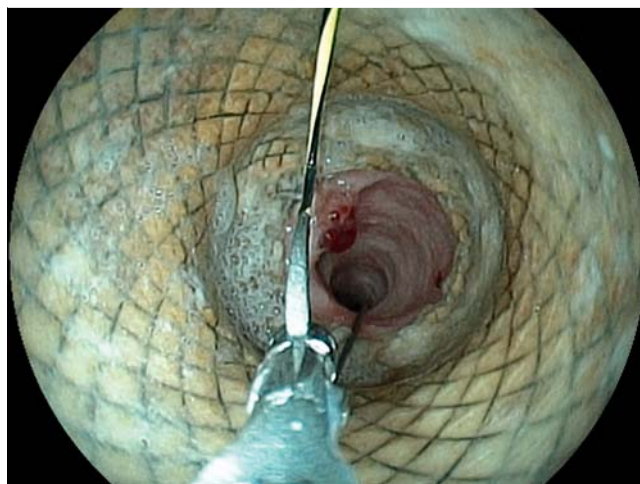
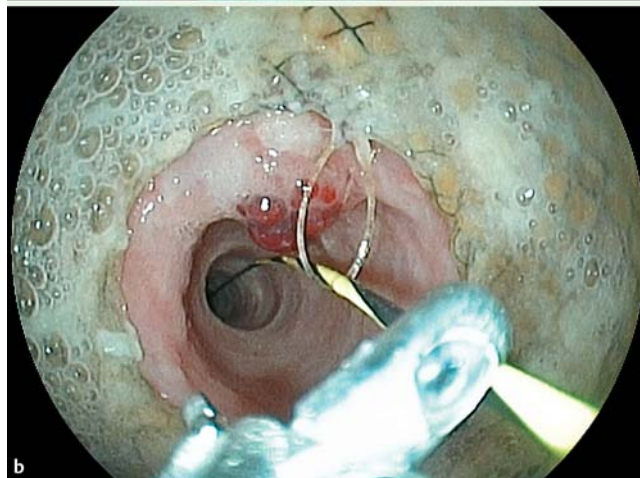
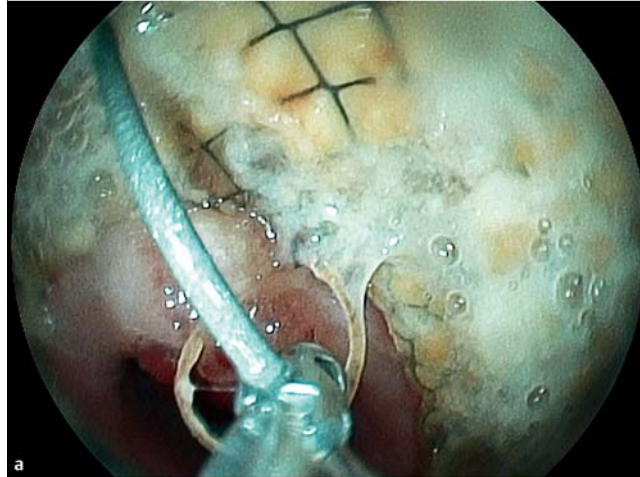


Fig. 1 After failure of the primary stent retrieval mechanism in a patient with a proximal esophageal stenosis, a forceps is used to: **a** carry a guidewire alongside the endoscope; and **b** pass it through the distal retrieval loop of the stent.

Fig. 2 The guidewire is grasped with the forceps on the other side of the loop and pulled back through the patient's mouth.



Fig. 3 The guidewire now forms a loop at the distal part of the stent, with both ends outside.

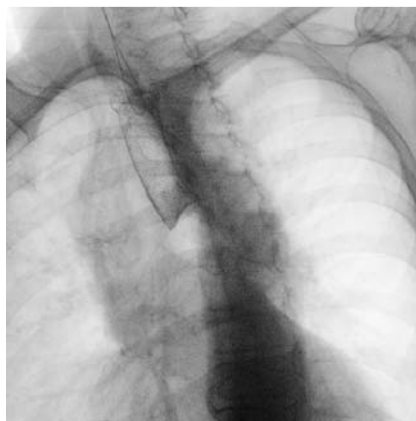


Fig. 4 With traction applied to the guidewire loop, the stent is removed from the esophagus by inversion (“peeled away”).

To the best of our knowledge, this is the first reported case of the use of a guidewire to extract an esophageal fully covered metal stent as a rescue procedure after damage of the proximal retrieval loop in the setting of a proximal esophageal stenosis.

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Competing interests: None

**Jochen Weigt¹, Neven Barsic²,
Peter Malfertheiner¹**

¹ Department of Gastroenterology, Hepatology, and Infectious Diseases, Otto-von-Guericke University, Magdeburg, Germany

² Department of Gastroenterology and Hepatology, Sestre Milosrdnice University Hospital Center, University of Zagreb School of Medicine, Zagreb, Croatia

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Corresponding author

Jochen Weigt, MD

Department of Gastroenterology, Hepatology, and Infectious Diseases
 Otto-von-Guericke University
 Universitätsplatz 2
 39106 Magdeburg
 Germany
 Jochen.Weigt@med.ovgu.de