

## Two-step removal of a migrated double-layered stent through a neoplastic stenosis using another double-layered stent and endoloops

Double layered self-expanding metal stents (SEMSs) are an effective treatment when placed across the gastroesophageal junction for malignant esophageal obstructions. The double layer provides effective prevention of stent migration, with the advantages of a covered stent [1]. However, should the stent migrate, the double layer makes endoscopic removal more difficult.

A 79-year-old man with symptoms of dysphagia was diagnosed as having a distal esophageal neoplasm during an esophagogastroscopy performed in another hos-

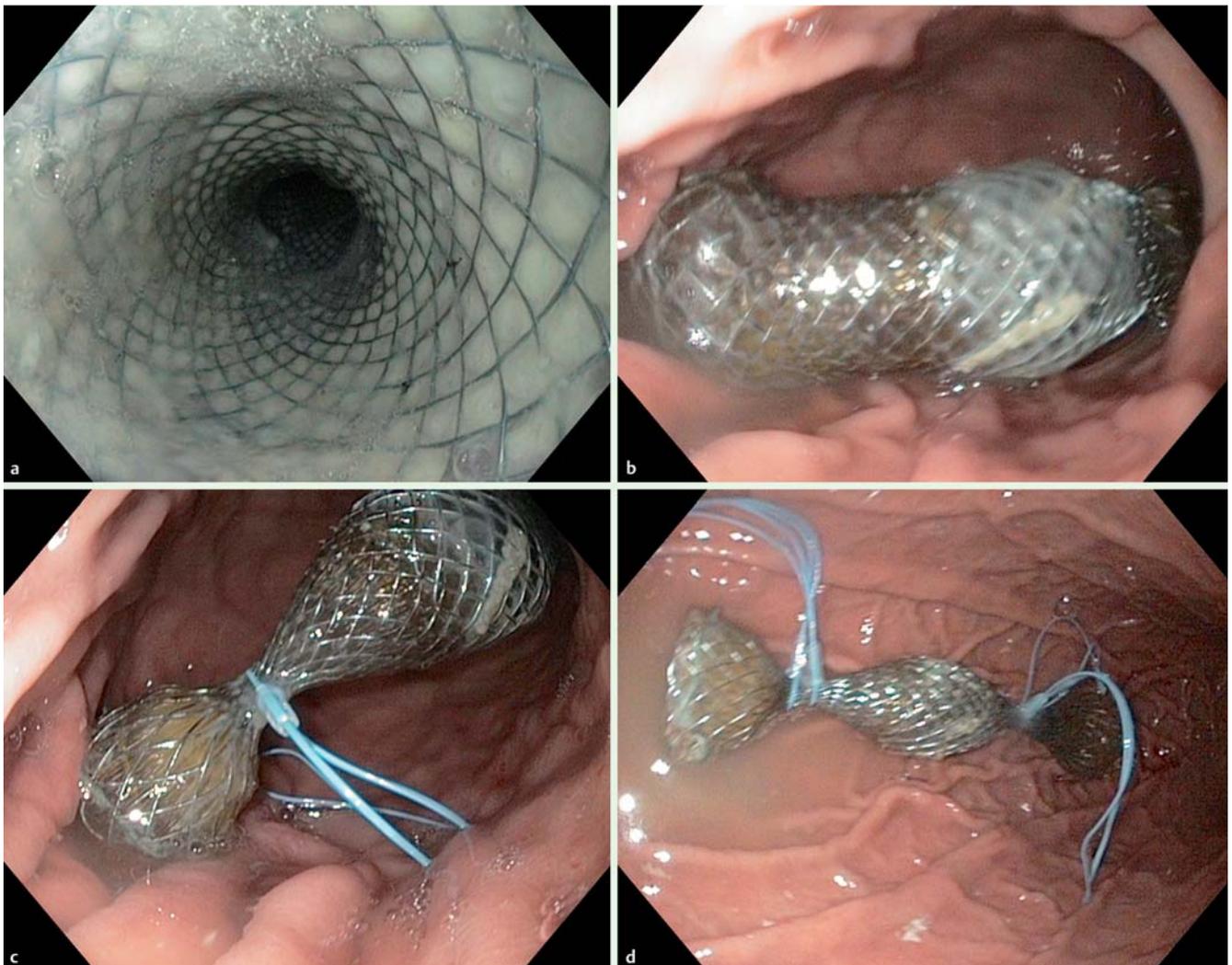
pital. Biopsies confirmed a diagnosis of adenocarcinoma. Because of his persistent dysphagia it was decided to place a double-layered SEMS before he started chemotherapy.

After the first cycle of chemotherapy, the patient presented to our hospital with symptoms of aphagia. Gastrosocopy was performed, which revealed a malignant stricture that was preventing passage of the endoscope. An abdominal radiograph showed a migrated double-layered stent within the gastric chamber. After explaining to the patient and his family members,

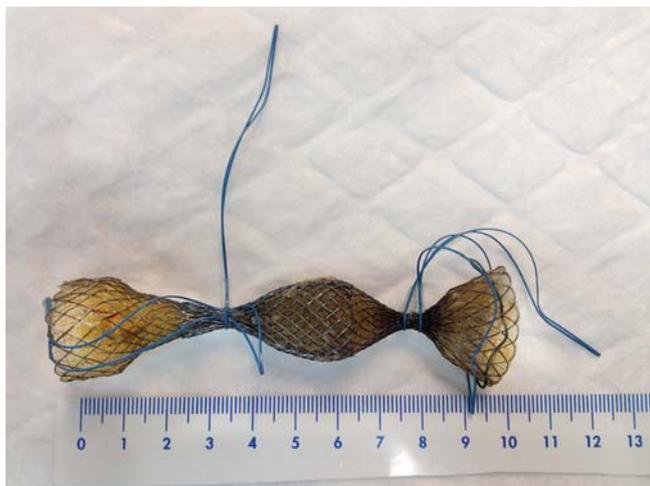
we decided to place a new 100×18-mm double-layered SEMS under fluoroscopic control.

The patient showed an improvement in his symptoms and remained in the hospital for 48 hours on liquid feeding. Subsequently he underwent a repeat endoscopy, at which the double-layered SEMS was shown to be fully expanded (● Fig. 1 a). The new stent allowed the endoscope to be passed into the stomach, where the migrated double-layered SEMS could be seen (● Fig. 1 b).

Because we knew that the inner diameter of the new esophageal stent was less than the size of the ends of the migrated stent, we decided to use endoloops (Polyloop, HX-400U-30; Olympus) to reduce the radial size of the migrated stent. We placed four endoloops along the stent body, reducing considerably its size (● Fig. 1 c, d). We then used a grasping forceps (Polygrab



**Fig. 1** Endoscopic images in a 79-year-old man with esophageal adenocarcinoma and a migrated esophageal stent showing: **a** the fully expanded new double-layered self-expanding metal stent (SEMS) in position; **b** the migrated double-layered SEMS inside the stomach; **c** endoloops being placed around the body of the migrated stent; **d** the migrated stent with significantly reduced size following endoloop placement.



**Fig. 2** The successfully removed double-layered self-expanding metal stent (SEMS) with the endoloops still in position.

Tripod, FG-600U; Olympus) to take hold of the proximal end of the stent, which was removed without any difficulty gaining traction (● Fig. 2).

The use of endoloops to facilitate removal of a migrated SEMS has been described in a few cases [2–5]. The placement of a new stent and the use of endoloops can be of great help in such cases with a migrated prosthesis where the stenosis does not allow passage of the endoscope.

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**Competing interests:** None

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