

Endoscopic extraction of a gastric foreign body by means of an esophageal self-expanding metal stent

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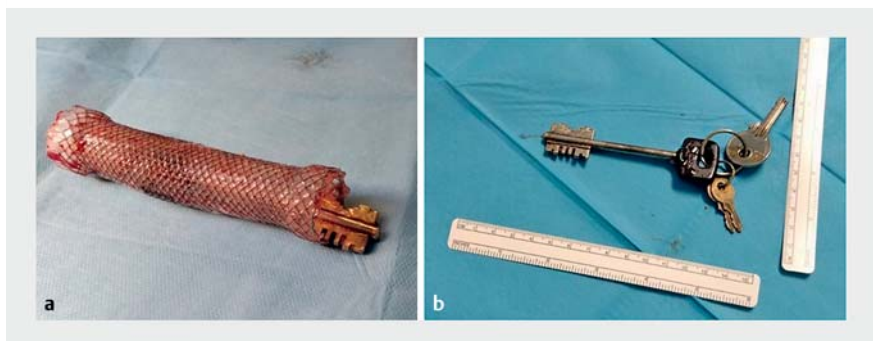
► **Fig. 1** Large metallic foreign body (bunch of keys) visible in the epigastric region of the abdomen on x-ray.

A 39-year-old man with a history of self-injurious behavior, presented at the emergency department and publicly swallowed a bunch of keys.

He was asymptomatic and the initial X-ray identified the foreign body (approximately 90 mm × 20 mm) in the epigastric region of the abdomen (► **Fig. 1**). He underwent endotracheal intubation and esophagogastroduodenoscopy for removal of the keys after 2 hours. The endoscopy showed the bunch of keys in the antrum of the stomach. Endoscopic balloon dilation of the upper esophageal sphincter (UES) was performed. Initial attempts of extraction using rat-tooth forceps and snare were unsuccessful because the bunch of keys could not pass through the lower esophageal sphincter (LES). Therefore, we decided to deploy a fully covered 23 × 125-mm esophageal self-expanding metal stent (SEMS) (Wall-Flex; Boston Scientific, Marlborough, Massachusetts, United States) across the cardia, to dilate the LES and protect the esophageal mucosa from laceration during retrieval. The bigger key was captured from the distal end to create an axis parallel to the esophagus and gently pulled through the cardia inside the SEMS (► **Video 1**).



► **Video 1** Effective endoscopic extraction of a large foreign body from the gastric antrum using an esophageal self-expanding metal stent.



► **Fig. 2** After extraction: **a** keys still lodged inside the esophageal stent; **b** the keys.

During the retrieval maneuver, the foreign body got stuck in the stent; eventually the removal of both foreign body and SEMS was obtained (► **Fig. 2a, b**; ► **Video 1**). No mucosal injuries were observed at the immediate post-procedural endoscopy.

Large (>25 mm) and long (>50 mm) foreign bodies usually present a challenge to endoscopic management [1]. The use of overtubes [2,3] and double device techniques [4,5] can be useful but endoscopic extraction can be hazardous in

certain cases. We proposed a novel technique for peroral extraction of a large and long foreign body employing the off-label use of SEMS. It is demonstrated to be a safe and effective option and should be considered, on a case-by-case basis, as a nonsurgical alternative in the hands of an expert endoscopist.

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Competing interests

The authors declare that they have no conflict of interest.

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