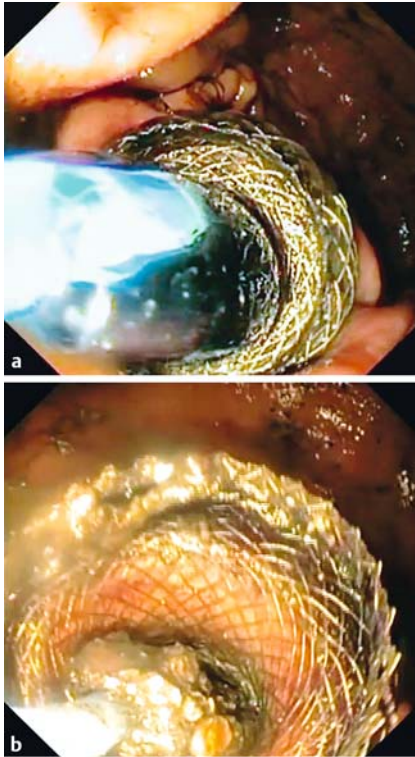


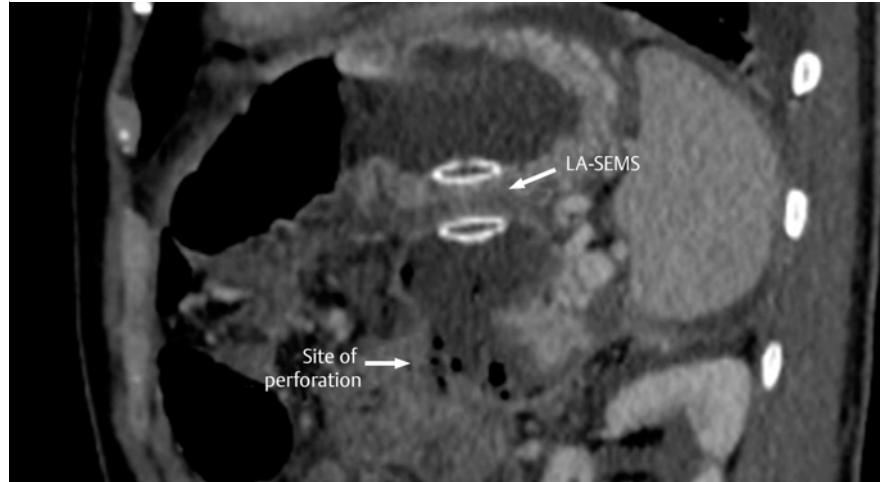
## Endoscopic necrosectomy through a lumen-apposing metal stent resulting in perforation: is it time to develop dedicated accessories?



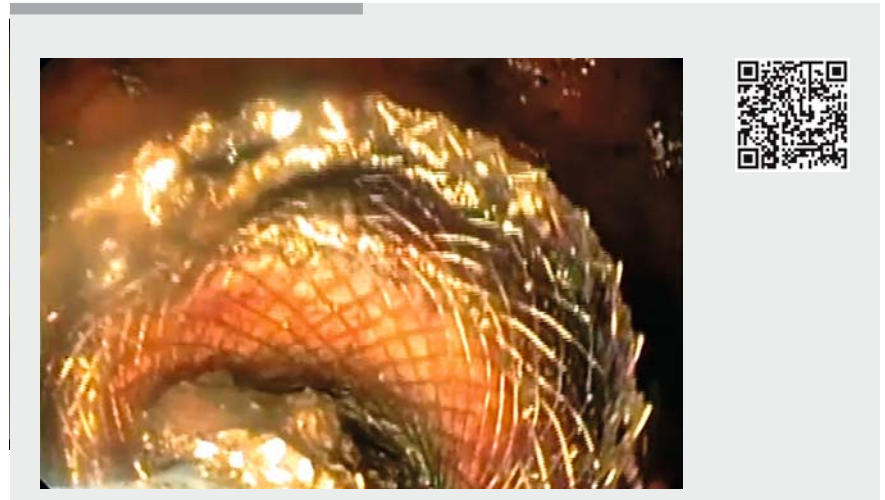
► **Fig. 1** Endoscopic images showing: **a** balloon dilation, up to 18 mm, of the central part of the lumen-apposing self-expandable metal stent that had been placed between the gastric lumen and the cavity of the walled-off pancreatic necrosis (WOPN); **b** removal of necrotic material from the cavity of the WOPN using a Dormia basket.

A novel lumen-apposing self-expandable metal stent (LAMS; Axios EC; Boston Scientific Corp., Marlborough, Massachusetts, USA) that is able to create a stable communicating fistulous tract has simplified the performance of endoscopic necrosectomy for walled-off pancreatic necrosis (WOPN).

A 44-year-old man with a 10-cm WOPN (>50% solid component) underwent successful endoscopic ultrasound (EUS)-guided drainage with placement of a LAMS (15-mm wide×10-mm long). Balloon dilation of the central part of



► **Fig. 2** Computed tomography image showing the perforation site of the walled-off pancreatic necrosis, which was located on the opposite wall of the cavity to the lumen-apposing self-expandable metal stent (LAMS).



► **Video 1** Video showing endoscopic ultrasound drainage of a walled-off pancreatic necrosis lesion followed by necrosectomy, which resulted in perforation of the cavity on the opposite wall to the position of the lumen-apposing metal stent.

the stent up to 18mm was performed (► **Fig. 1 a**), followed by removal of necrotic debris using various Dormia baskets (► **Fig. 1 b**; ► **Video 1**) and instillation of hydrogen peroxide into the cavity. The following day, the patient devel-

oped peritoneal signs and an abdominal computed tomography (CT) scan showed perforation of the wall of the WOPN on the opposite side to the position of the stent (► **Fig. 2**). He underwent successful surgery. After the videos of the proce-

cedure had been reviewed, it was judged that the tip of the balloon dilator was most likely to have been the cause of the perforation.

Among the various complications associated with endoscopic procedures, a minority of them are still related to the limitations of the instruments that are used in achieving the goal of minimally invasive treatment [1, 2]. This is especially true for novel indications, such as EUS-guided gastroenterostomy [3], natural orifice transluminal endoscopic surgery (NOTES) [4], or submucosal endoscopy [5]. Similarly, endoscopic necrosectomy is cumbersome, being performed with tools borrowed from the armamentarium of other procedures, which may therefore have designs that are not suitable for the performance of all of the different steps in endoscopic necrosectomy. The presented case suggests the need for dedicated accessories in order to improve procedural efficiency and avoid complications.

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### Competing interests

Alberto Larghi is a consultant for Boston Scientific Corp. The other authors have no relevant competing interests.

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