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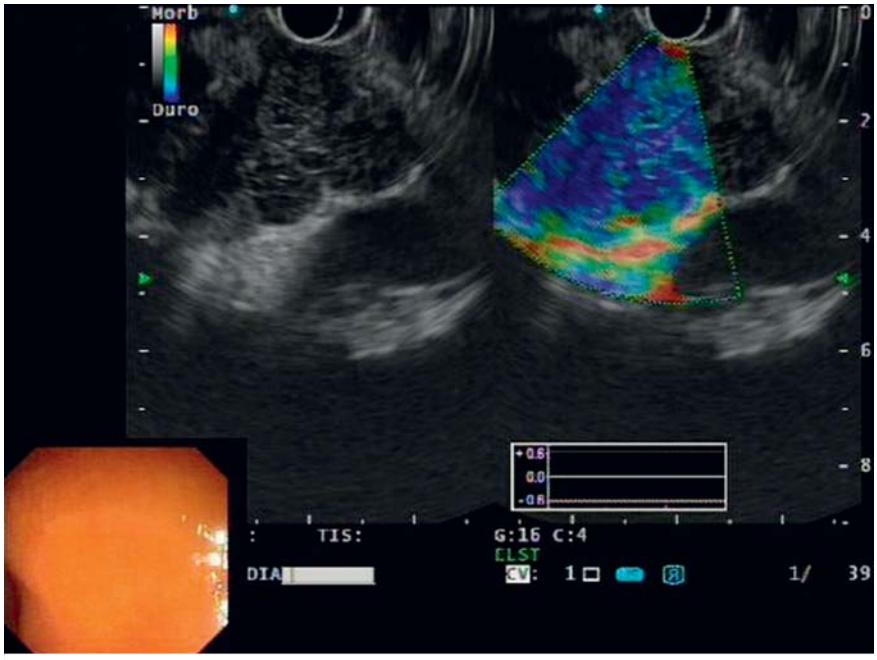
Successful endoscopic closure of iatrogenic duodenal perforation with the new Padlock Clip



▶ **Fig. 1** Solid lesion seen in the pancreatic head on endoscopic ultrasound.

▶ **Fig. 2** Full-thickness defect at the upper duodenal knee.

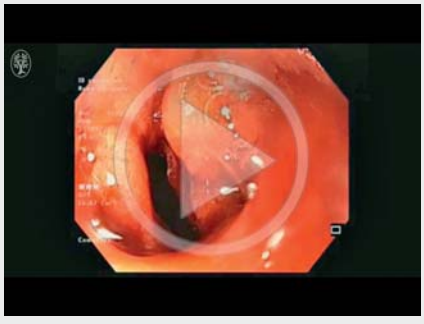
▶ **Fig. 3** The new Padlock Clip (Aponos Medical Co., Kingston, New Hampshire, USA).

Although duodenal perforations are rare [1], they represent one of the most critical complications of endoscopic ultrasound (EUS) and may be fatal in elderly patients. Following the introduction of endoscopic clips, stents, and over-the-scope systems into clinical practice, endoscopic management of perforations has became the first therapeutic option [2, 3].

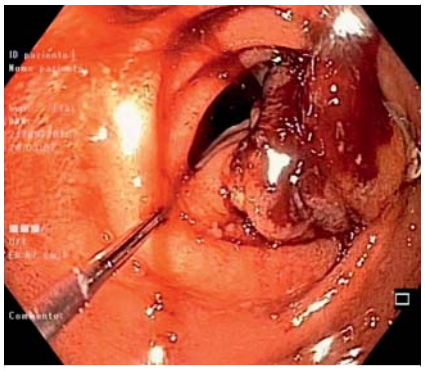
We present the case of a 62-year-old man with jaundice, who was referred to the Digestive Endoscopy Unit of Humanitas Research Hospital (Rozzano, Italy) to undergo EUS-guided fine-needle aspiration of a solid lesion in the pancreatic head (▶ **Fig. 1**). The EUS was performed using a linear echoendoscope (GF-UCT140; Olympus Optical Co., Tokyo, Japan), CO_2 insufflation, and with the patient under deep sedation with propofol.

During scope withdrawal through the duodenum, we observed a type-1 [4], full-thickness defect, of 13 mm in diameter, at the upper duodenal knee (▶ **Fig. 2**). A stiff guidewire was placed in the duodenum to help expose the defect. A twin grasper (Ovesco Endoscopy AG, Tübingen, Germany) was used to approximate the mucosal edges of the perforation. Then, a gastroscope loaded with the new Padlock Clip (Aponos Medical Co., King-

VIDEO 1



▶ Video 1: Endoscopic closure of an iatrogenic duodenal perforation using the new Padlock Clip system (Aponos Medical Co., Kingston, New Hampshire, USA).



▶ **Fig. 4** Final endoscopic appearance after deployment of the Padlock Clip (Aponos Medical Co., Kingston, New Hampshire, USA).

▶ **Fig. 5** Final fluoroscopic appearance of the Padlock Clip (arrow; Aponos Medical Co., Kingston, New Hampshire, USA).

ston, New Hampshire, USA) (▶ **Fig. 3**) was used to seal the defect (▶ **Video 1**). Finally, a contrast radiograph confirmed the complete closure of the perforation (▶ **Fig. 4**, ▶ **Fig. 5**).

The Padlock Clip is a new over-the-scope system designed to be placed parallel to the endoscope, without occupying the operative working channel [5]. To our knowledge, this is the first clinical experience of closure of a duodenal iatrogenic perforation using the Padlock Clip.

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Competing interests

None

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