

Successful closure of an endoscopic ultrasound-induced duodenal perforation using an over-the-scope-clip



Fig. 1 Duodenal perforation before placement of the over-the-scope clip in an 86-year-old woman being investigated for a suspected malignant neoplasm of the common bile duct.



Fig. 2 Contrast X-ray study documenting correct placement of the clip.

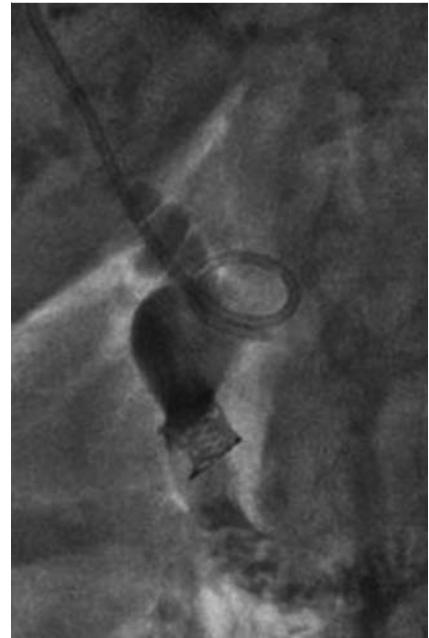


Fig. 3 Percutaneous biliary transhepatic drainage also documenting absence of leakage of contrast medium from the site of the perforation.

Perforation of the duodenum is one of the most feared adverse events during upper gastrointestinal tract operative endoscopy and, in particular, during endoscopic ultrasonography (EUS). A recent study by Carrara et al. reported a duodenal perforation rate of 0.09% in a series of 3296 patients who underwent EUS-guided fine-needle aspiration [1].

An 86-year-old woman judged unfit for surgery was sent to our center for computed tomographic scanning of a suspected malignant neoplasm of the distal third of the common bile duct, which showed a

3-cm stenosis that was causing jaundice. The patient underwent EUS for staging of the lesion, but during the passage of the scope in the duodenum we observed a perforation 10 mm in diameter, full thickness, on the posterior wall of the duodenal bulb, just above the flexure (► **Fig. 1**). With a therapeutic gastroscope (EG 3490K; Pentax, Hamburg, Germany) with a diameter of 11.6 mm and an operative channel of 3.8 mm, an 11 mm therapeutic type over-the-scope clip (11/6t OTSC; Ovesco Endoscopy, Tübingen, Germany) was immediately placed on the perfora-

tion, using a Twin Grasper (Ovesco Endoscopy) to catch the two edges of the perforation, with immediate closure of the breach itself (► **Video 1**). Correct positioning of the OTSC and complete closure of the perforation were confirmed by an X-ray transit study of the upper gastrointestinal tract performed immediately after placement of the OTSC (► **Fig. 2**).

On the same day, percutaneous biliary transhepatic drainage was also performed (► **Fig. 3**). With her bilirubin concentrations trending downward, the patient was discharged on the 4th day.

Given the high morbidity and mortality rates of surgical treatment of iatrogenic duodenal perforations, the OTSC should be considered as the first option for immediate resolution of this adverse event, even when there is a possible risk that the attempt may fail.

Video 1

Duodenal perforation closed by OTSC.

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**Benedetto Mangiavillano,
Monica Arena, Elisabetta Morandi,
Tara Santoro, Enzo Masci**

Gastrointestinal Endoscopy, Azienda
Ospedaliera San Paolo University Hospital,
University of Milan, Milan, Italy

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Bibliography

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Corresponding author

Benedetto Mangiavillano, MD

Gastrointestinal Endoscopy
Azienda Ospedaliera San Paolo University Hospital
Via A. di Rudinì n° 8
20142 Milan
Italy
Fax: +39-02-81844647
b_mangiavillano@hotmail.com