Direct peroral cholangioscopy after dilation of distal common bile duct with a fully covered self-expandable metal stent for the assessment of indeterminate biliary stricture

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An 82-year-old man presented with jaundice and evidence of a stricture in the mid common bile duct (CBD), with wall thickening detected on CT scan (Fig. 1). The patient underwent endoscopic ultrasound that showed a hypoechoic, endoductal, hypovascularized lesion of the mid CBD measuring 12.7 mm in diameter. EUS-guided fine-needle biopsy was performed in this area, and histocytopathologic evaluation results were inconclusive.

An ERCP with sphincterotomy brushing and subsequent positioning of a fully covered self-expandable metal stent (FC-SEMS), 10 × 80 mm, was performed with progressive resolution of jaundice. Nevertheless, cytologic and histologic analysis revealed inconclusive results. Thus, 15 days later, a second ERCP was performed for repeat tissue acquisition for a possible definitive diagnosis.

After removing the biliary FC-SEMS, the fluoroscopic images showed persistence of the stricture in the mid CBD (Fig. 2). Dilation of the distal CBD created by the indwelling FC-SEMS previously placed allowed us to perform direct peroral cholangioscopy using a slim (8.5-mm diameter, 2.8-mm working channel; Fujifilm EG 530FP, Tokyo, Japan) endoscope with free-hand technique under CO_2 insufflation to prevent air embolism. The endoscope is manipulated to assume a "J" configuration by left torch to maintain a stable position in front of the papilla. A concentric, obstructing lesion with dilated and tortuous vessels in the mid CBD was revealed (Fig. 3). Under direct endoscopic visualization, multiple targeted biopsy specimens were obtained with regular forceps for histopathologic analysis (Figs. 4 and 5). Finally, an FC-SEMS, 10 × 60 mm, was placed. No adverse events occurred during the procedure or at the subsequent follow-up. Histologic analysis revealed a cholangiocarcinoma (Fig. 6). Therefore, the patient was scheduled for surgery (Video 1, available online at www.VideoGIE.org).

Indeterminate biliary strictures of the mid and distal CBD are often managed with temporary FC-SEMS placement.[1] The histologic characterization of this condition

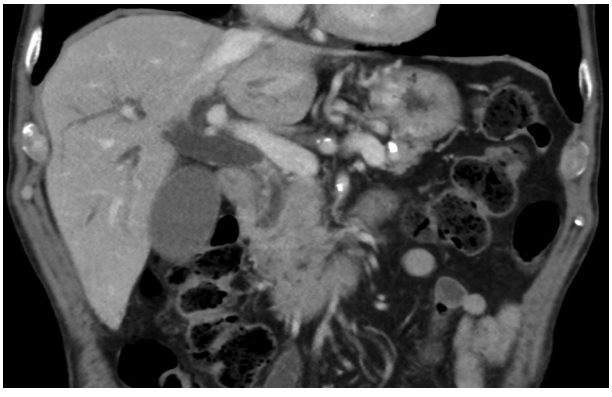

Figure 1. CT image showing a stricture in the mid common bile duct.

Figure 2. Fluoroscopic image showing a stricture in the mid common bile duct.

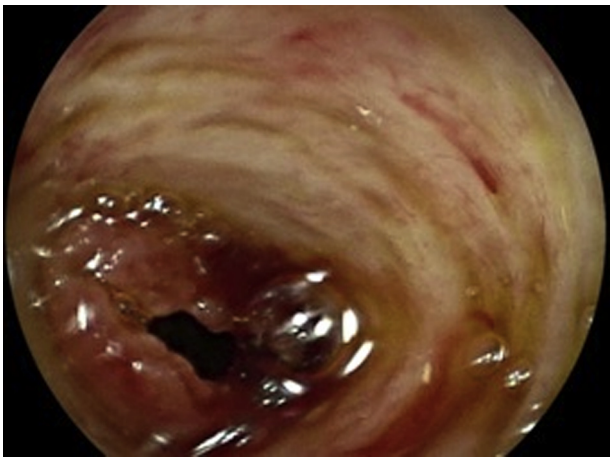

Figure 3. Appearance of the lesion on direct peroral cholangioscopy.

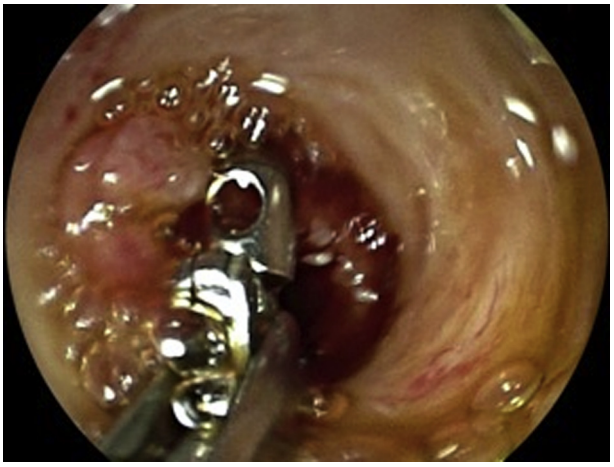

Figure 4. Direct peroral cholangioscopy view of targeted biopsy specimens obtained with regular forceps.

remains a challenge, even at centers with significant ERCP and EUS expertise. Intraductal biliary imaging can help in diagnostic work-up and subsequent therapeutic management.[2-4] The presence of a previously placed FC-SEMS has been usually considered an impediment for subsequent tissue acquisition (during EUS-guided fine-needle biopsy, ERCP, or cholangioscopy). Immediate stent expansion at the time of stent deployment affects short-term outcomes, and chronic resistant force against tissue compression affects long-term outcomes. The SEMSs partially expand immediately after deployment and then gradually expand to their full extent. Nevertheless, if removed after at least 2 weeks, they might achieve good distal CBD dilatation to allow direct peroral cholangioscopy with a slim gastroscope, without need for specifically designed instruments or devices. This approach could represent a useful additional strategy for the assessment of malignancy in indeterminate biliary strictures that can be performed by expert operators at a tertiary referral center.

Figure 5. Fluoroscopic image showing position of the endoscope during direct peroral cholangioscopy.

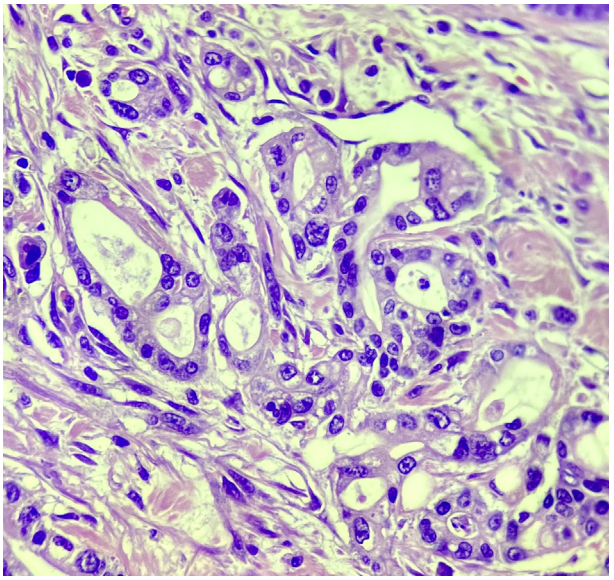

Figure 6. Histologic image showing a cholangiocarcinoma.

DISCLOSURE

Dr Repici is a consultant for Boston Scientific and Fujifilm. Dr Anderloni is a consultant for Boston Scientific

and Olympus. All other authors disclosed no financial relationships.

Abbreviations: CBD, common bile duct; FC-SEMS, fully covered self-expandable metal stent.

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