

The impact of probe-based confocal laser endomicroscopy on the management of indeterminate bile duct strictures



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The diagnosis of indeterminate bile duct strictures is challenging because of the low sensitivity and accuracy of tissue biopsy sampling or brush cytology with the use of

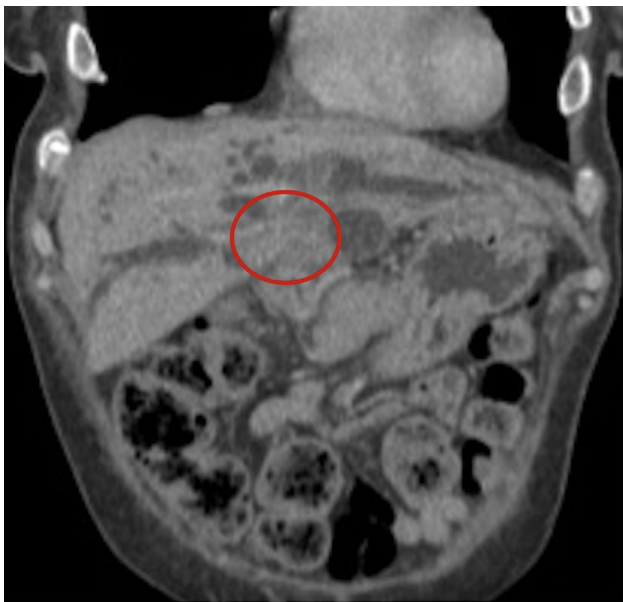


Figure 1. CT coronal scan demonstrating hilar tumor (red circle area) with dilation of bilateral intrahepatic ducts.

ERCP.¹ Probe-based confocal laser endomicroscopy (pCLE) is a safe, innovative endoscopic method, which offers the potential of real-time in vivo diagnosis. High sensitivity, negative predictive value, and diagnostic accuracy (>95%) have been demonstrated by the use of pCLE according to the Miami and Paris classifications for biliary strictures.²⁻⁴

A 62-year-old woman presented with abdominal pain, vomiting, and jaundice. After the diagnosis of cholecystitis and cholelithiasis, she underwent cholecystectomy and ERCP in another hospital.

After 3 months, she presented with recurrent jaundice and weight loss of 23 kg (about 30% of body weight) without signs of cholangitis. An abdominal CT scan identified a solid mass at the hilum (Fig. 1).

Owing to infiltration of the hepatic artery, surgical resection was contraindicated. The patient underwent ERCP for biliary drainage in addition to pCLE evaluation of the hilar stricture with the use of CholangioFlex (Mauna Kea Technologies, Paris, France). The resulting images showed characteristics of malignant stenosis with thick bands, and increased dark cells (Fig. 2).

Biopsy specimens were obtained, and brush cytology was performed to confirm the diagnosis, followed by the insertion of plastic stents. After histologic confirmation of cholangiocarcinoma, the patient underwent another

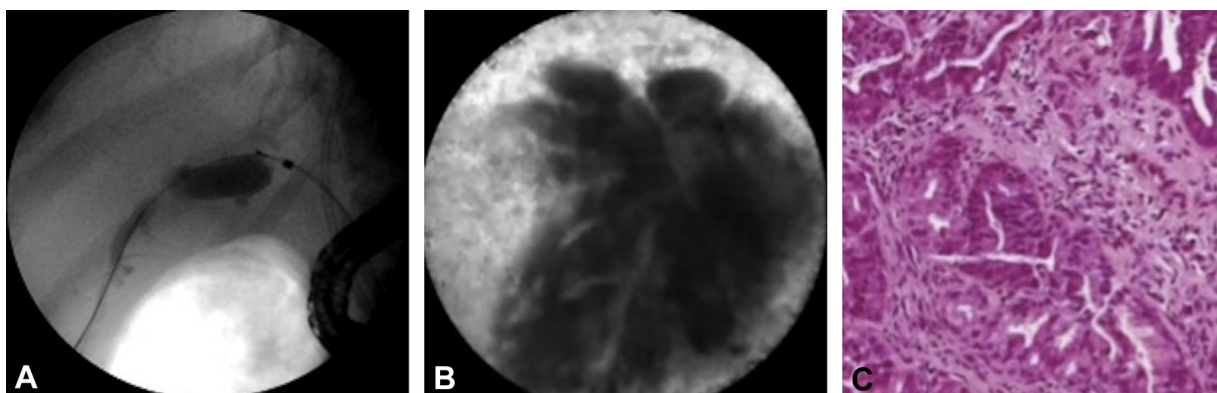


Figure 2. A, pCLE view showing stricture under fluoroscopic guidance (small radiopacity, red-tipped arrow). B, pCLE showing microscopic images with thick dark clumps with increased diameter (>40 μm), a positive sign for malignant stricture. C, Histologic confirmation of cholangiocarcinoma. pCLE, probe-based confocal laser endomicroscopy.

Written transcript of the video audio is available online at www.VideoGIE.org.

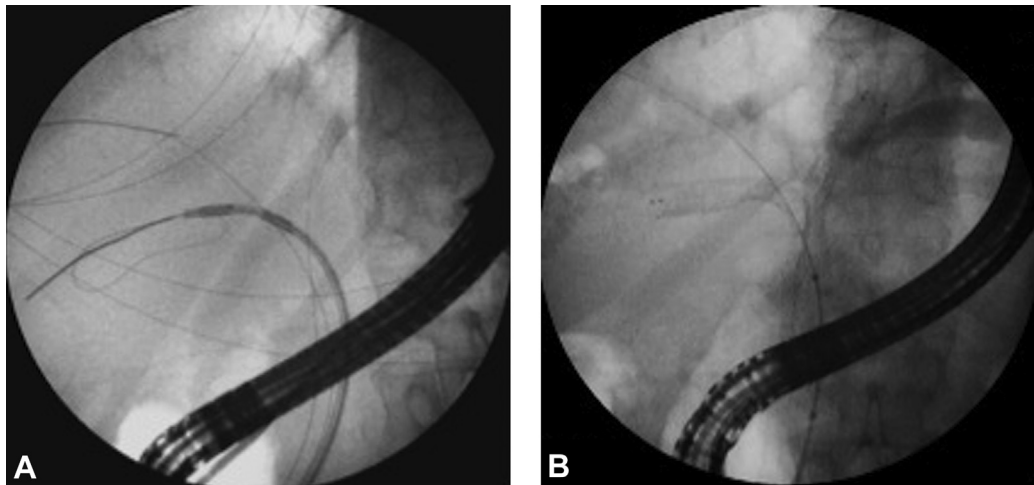


Figure 3. **A**, Radiofrequency ablation catheter inside the right hepatic duct. **B**, Bilateral biliary drainage with self-expanding metal stent positioned inside the common bile duct.

ERCP for radiofrequency ablation (bipolar catheter Habib EndoHPB, Montreal, Canada [7 watts for 90 seconds]) and bilateral biliary drainage with a self-expanding metal stent (SEMS) (Fig. 3; Video 1, available online at www.VideoGIE.org). The patient was discharged from the hospital 48 hours later, with gradual decreasing of bilirubin levels, and she survived for another 9 months.

The pCLE procedure may provide in vivo real-time diagnosis. In a scenario in which the multidisciplinary oncologic team recognizes pCLE findings valuable for decision making, pCLE would allow immediate management and advanced treatment in a single session.

The application of radiofrequency ablation is safe and may prolong survival.⁵ The effectiveness of such a strategy should be assessed in large prospective studies.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Abbreviations: pCLE, probe-based confocal laser endomicroscopy; SEMS, self-expanding metal stent.

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