

Peroral cholangioscopy: new approach with a balloon enteroscope

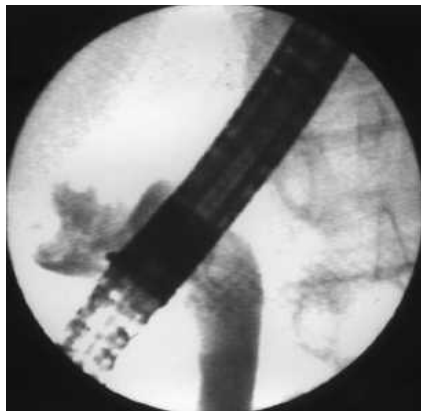


Fig. 1 Dilated common bile duct (CBD) with a large intraluminal filling defect and a suspected stricture at the hilar region on endoscopic retrograde cholangiopancreatography, suggestive of cholangiocarcinoma.

Advances in endoscopic technology have expanded the horizons of interventional endoscopy [1]. Starting with rigid optical endoscopes that could access only either end of the digestive system, endoscopy evolved to enable visualization of the entire gastrointestinal tract with the development of capsule endoscopy and double-balloon enteroscopy [2]. However, the biliary-pancreatic system still remained a side track. The available biliary-pancreatic endoscopes are expensive, suboptimal, and not widely available [3,4]. Optimal visualization of the bile duct lumen enabling direct interventions through an adequate working channel remains a dream. Working under the odds of third-world realities, we recently adapted the diagnostic double-balloon enteroscope to serve as a peroral choledochoscope, without the need for an expensive mother–baby system.

A 65-year-old man presented with a 6-week history of painless progressive jaundice and fever. There was evidence of severe extrahepatic distal biliary obstruction on abdominal CT. Endoscopic retrograde cholangiopancreatography showed a large intraluminal filling defect in the dilated common bile duct and a suspected stricture at the hilar region (● Fig. 1).

Proximal biliary access failed despite a sphincterotomy and multiple attempts

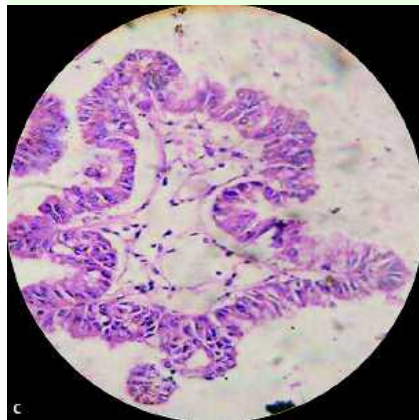


Fig. 2 **a** Ulcerated lesion in the proximal CBD near the hilum as seen on choledochoscopy using the 8.5-mm Fujinon double-balloon enteroscope after dilation of the stricture. **b** Closer view of the papillary projections suggesting cholangiocarcinoma on choledochoscopy. **c** Cystic papillary adenocarcinoma on endoscopic biopsies obtained under direct vision (H&E stain; × 100).

with different accessories. With negative biliary brush cytology and noninformative magnetic resonance cholangiopancreatography, a percutaneous biliary access seemed inevitable due to the lack of a choledochoscope. Encouraged by prior extensive experience with double-bal-

loon enteroscopy, cholangioscopy was performed using the 8.5 mm diagnostic Fujinon double-balloon enteroscope after balloon dilation of the proximal biliary stricture (● Video 1).

Successful endoscopic biliary drainage was accomplished under direct vision, after biopsy of the large papillary projections observed in the proximal common bile duct near the hilum (● Fig. 2 a, b).

Histopathology confirmed papillary cystadenocarcinoma that was subsequently operated on (● Fig. 2 c).

To conclude, thinking outside the box, we describe an alternative approach for cholangioscopy with a 2.8 mm working channel that would enable most endoscopic interventions in the dilated biliary tree. Development of a dedicated peroral choledochoscope to extend therapeutic options seems long overdue.

Endoscopy_UCTN_Code_CCL_1AZ_2AC

Endoscopy_UCTN_Code_TTT_1AR_2AK

P. Muralikrishna, K. Madhu, A. Aditya, V. S. Srinivas, E. PedaVeerraju

Department of Gastroenterology, Andhra Medical College, Visakhapatnam, India

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DOI 10.1055/s-2008-1077676

Endoscopy 2008; 40: E234

© Georg Thieme Verlag KG Stuttgart · New York · ISSN 0013-726X

Corresponding author

P. Muralikrishna, MD

Department of Gastroenterology,

King George Hospital

Visakhapatnam - 530002

Andhra Pradesh, India

Fax: +91-891-2569080

muralikrishna63@yahoo.com

Video 1

Common bile duct dilatation was done using a 15 mm CRE balloon. The enteroscope was slipped into the lower end of the dilated bile duct by gentle maneuver. The common bile duct shows papillary projections. On further advancement, the hilar region of the common hepatic duct was demonstrated. A biopsy specimen was taken from the papillary projections which were histopathologically proved to be papillary mucinous adenocarcinoma.