

The Role of Per Oral Cholangiopancreatography (POCPS) in Complicated Pancreaticobiliary Disease

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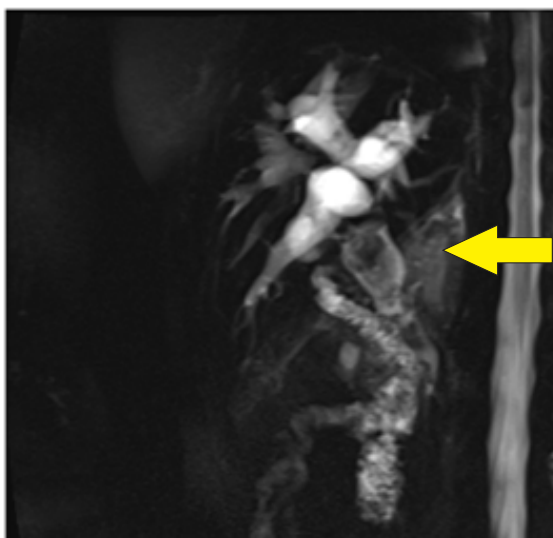


Figure 1. MRCP shows multiple CBD stones and suspect benign stricture of common hepatic duct until bifurcation causing IHBD dilatation



Figure 2. First ERCP shows dilatation of bilateral IHBD, stenosis of CHD, giant stones prior the CHD and multiple CBD stones

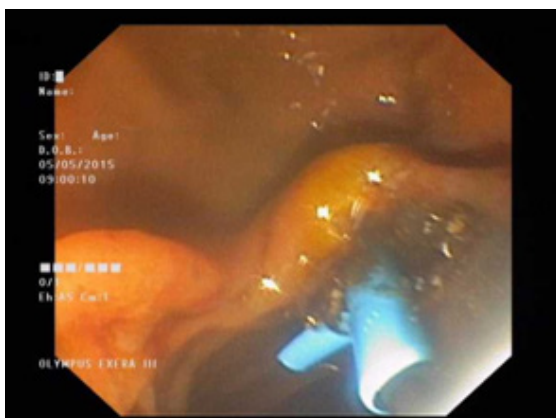


Figure 3. Inserting plastic stent into biliary duct in first ERCP

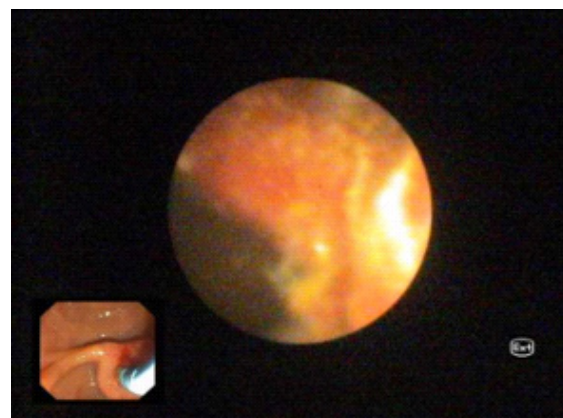


Figure 4. The appearance of mass from second ERCP with per oral cholangiopancreatography (POCPS)

A fifty-five year old female patient presented with jaundice, subfebrile fever and dark yellow urine since one month before admission. She lost weight 10 kilograms during one month. One day before admission to Ciptomangunkusumo General Hospital, she complained of worsened abdominal pain at right upper quadrant urging her to come to the emergency room. An abdominal examination revealed Murphy sign, mild hepatomegaly and deeply icteric sclera. Serum bilirubin was 21.8 mg/dl, alkaline phosphatase and gamma-glutamyltransferase levels were significantly elevated (1090 IU/L and 560 IU/L consecutively) while the transaminases were moderately high (ALT 80 U/L). The C-reactive protein was 555 mg/L. An abdominal ultrasound examination revealed dilatation of right and left intrahepatic bile duct and presence of common hepatic duct stone. Subsequent magnetic resonance imaging/magnetic cholangiopancreatography (MRI/MRCP) revealed intrahepatic bile duct dilatation, multiple CBD stone and benign stricture at common hepatic duct causing right and left intrahepatic bile duct obstruction. We assessed the patient as acute cholangitis and obstructive jaundice suspected to be caused by biliary duct stone then we performed endoscopic retrograde cholangiopancreatography (ERCP), we revealing stenosis at distal CBD, multiple CBD stone, giant stone in CHD and dilatation of bilateral IHBD. We performed CBD stone extraction then inserted biliary stent for drainage. Then we planned to do second ERCP with SpyGlassTM for giant stone extraction. After the first ERCP, the clinical condition of the patient improved and the bilirubin decreased to 10 mg/dL. In the next two weeks we performed a second ERCP to extract the giant stone with SpyGlass TM. However, after we inserted SpyGlassTM into the biliary duct, what we found were not as we expected before. We revealed that there was a mass in biliary duct and there was no CBD stone. We did the biopsy and inserted a new plastic stent (after removed the older one) to the common biliary duct. Surprisingly, the result of histopathology also supports our findings, which was the adenocarcinoma at common bile duct.

To date, the prediction of indeterminate bile

duct lesions remains a diagnostic challenge in clinical practice. Since it was introduced in 1970, endoscopic retrograde cholangiopancreatography (ERCP) has been the standard of diagnosis in pancreatobiliary disease. However, limitation of diagnosis on indeterminate biliary stricture shown by fluoroscopy cholangiogram, requiring a further diagnostic tools to directly visualize the bile duct.^{1,2} Cholangiopancreatography, which facilitates direct visual assessment and help in visually guided tissue sampling, hold promise as an advance technique in indistinct biliary duct lesion that elude successful diagnosis by ERCP. However, clinical implementation was limited as slow rate advancements in technology available. In addition, technical means were limited so far as the “mother-baby” system had to be operated by two interventionalist.^{2,3}

SpyGlassTM is a technically advanced cholangiopancreatography system facilitating diagnostics in the bile duct due to its single operator feature.^{2,4} The peroral approach (as set by SpyGlassTM) is preferred than percutaneous because less invasive (do not require any hepatic puncture).⁵ The clinical utility of SpyGlassTM cholangiopancreatography through the ERCP catheter was technically successful as reported in many studies.^{1,6} According to the consensus statement of the Asian Institute of Gastroenterology, POCP is now an important additional tool during ERCP. Direct visualization and the ability to sample and treat lesions aid in the care of patients by providing the correct diagnosis and allowing definitive treatment of the lesions. Cholangiopancreatography through an ERCP catheter is a simple, safe, and effective procedure for diagnosing pancreaticobiliary diseases.^{1,5} Intraductal peroral cholangioscopy and pancreatoscopy sampling techniques appear to offer an advantage over fluoroscopy-guided ERCP sampling techniques for the diagnosis of pancreaticobiliary lesions. In patients with indeterminate biliary strictures, per oral cholangioscopy (POCS) and POCS-guided targeted biopsy are useful for establishing a definitive diagnosis. POCS and POCS-guided lithotripsy are recommended for the treatment of difficult common bile duct stones when standard techniques failed. In patients with the main

duct, intraductal papillary mucinous neoplasms (IPMN) per oral pancreatoscopy may be used to assess the extent of the tumor. However, POCS will not replace ERCP, but has been shown to improve diagnostic accuracy of ERCP for complicated biliary problem and improve duct clearance rates in bile duct stones not amenable to ERCP.^{1,2,5}

From our case, we can learn that POPCS is an important additional tool in ERCP. They can diagnose the main cause of the biliary duct problem of tumor of the biliary duct by direct visualization while the previous ERCP cannot diagnose that problem. From the abdominal ultrasound, MRI/MRCP and ERCP, we concluded that obstructive jaundice is caused by biliary duct stone. However, our findings by SpyGlassTM disproved the previous hypothesis, and we could safely diagnose the real cause of obstructive jaundice in the patient which is a malignancy. Therefore, we can safely conclude that POCPS is a sensitive additional tool for diagnosis pancreaticobiliary disease, and we have to consider the presence of tumor in the

case of biliary duct stone with alarm signs, such as in the elderly and any weight loss.

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