Biliary tract intraductal papillary mucinous neoplasm: single-operator cholangioscopy and clearance of mucin obstruction

Fig. 1 a, b Biliary duct dilatation seen at abdominal computed tomography (CT), in a 49-year-old man presenting with obstructive jaundice and abdominal pain.

Fig. 2 a, b Endoscopic retrograde cholangiopancreatography (ERCP) showed amorphous filling defects of the common bile duct and occlusion of the right intrahepatic duct.

Fig. 3 Biliary lesion seen at single-operator cholangioscopy.

Biliary tract intraductal papillary mucinous neoplasm: clearance of mucin clot and Spy-Glass cholangioscopy-guided biopsies.

Biliary tract intraductal papillary mucinous neoplasm (BT-IPMNs) are the counterparts of pancreatic IPMNs, and are characterized as papillary lesions that produce mucin and spread along the biliary mucosa causing obstructive jaundice [1]. These tumors can develop anywhere along the biliary tree, and are considered to be premalignant lesions [2]. We report a case of a BT-IPMN diagnosed by cholangioscopy-guided biopsy, and a novel technique of clearing the biliary tree with a mucolytic solution.

A 49-year-old man presented with obstructive jaundice (serum bilirubin 15 mg/dL) and abdominal pain. Contrast computed tomography showed focal dilatation of bile ducts in segments IV and VIII and dilatation of the common bile duct, with no stones or adenopathy (Fig. 1a, Fig. 1b). Endoscopic retrograde cholangiopancreatography (ERCP) detected amorphous filling defects of the common bile duct with poor opacification of the intrahepatic ducts, especially at the right side (Fig. 2a, Fig. 2b). As a mucin clot was obstructing bile flow, a 5-minute wash with mucolytic agent (n-acetyl cysteine) through an inflated extractor balloon (Video 1) was done to improve clearance. Single-operator cholangioscopy (SpyGlass; Boston Scientific, Natick, Massachusetts, USA) was performed to evaluate the extent and involvement of the tumor growth within the bile duct as well as to provide direct-view biopsies (Fig. 3). A protruded, friable 8-mm lesion, located in the right intrahepatic duct, was biopsied and histopathological examination revealed a mucinous papillary neoplasm without dysplasia (Fig. 4a, Fig. 4b). The patient recovered without adverse events, his serum bilirubin levels decreased to 2 mg/dL, and a surgical resection was planned.

BT-IPMN is a rare variant of bile duct tumor, with malignancy varying on several reports to as high as 64%–89% [1,3,4]. Clinical presentations include abdominal pain, jaundice, and acute cholangitis. Peroral cholangioscopy can assess the spread of the tumor and allows histological confirmation, providing better information for surgical planning [5]. We undertook a novel approach of mucin removal by injection of a mucolytic agent, thus improving biliary clearance before surgery.

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Fig. 4 a,b Histopathological appearances of a mucinous papillary neoplasm.

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