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Diagnosing Cholangiocarcinoma:

SpyGlass™ DS Direct Visualization System with SpyBite™ Max Biopsy Forceps

Patient history and assessment

A 54-year-old man presented with abdominal pain and abnormal LFTs (AST 83 U/L, ALT 101 U/L, Bilirubin 0.9 mg/dL, Alkaline phosphatase 218 U/L). CA 199 levels were 11.3 U/ml [normal], IgG4 levels were 97.4 mg/dL [minimally elevated]. Past medical history included CBD stones, treated with ERCP, sphincterotomy, and stone clearance followed by subsequent laparoscopic cholecystectomy, 18 months prior to this presentation. An MRCP was requested and reported a 12 mm bile duct with retained CBD stone in the distal CBD [Figure 1] and possible 1 cm hypoechoic lesion in the head of the pancreas, likely inflammatory but EUS recommended to exclude a mass lesion.

EUS showed a filling defect in the distal bile duct with no pancreatic mass. ERCP was undertaken to remove the bile duct stone during the same session. The initial cholangiogram demonstrated several small filling defects in the distal CBD [Figure 2]. A balloon sphincteroplasty was performed to 10 mm with an 8-10 mm CRE Pro Wireguided Balloon and Extractor Pro XL Retrieval Balloon, to assist with stone extraction [Figure 3]. Multiple balloon sweeps then yielded two small CBD stones and sludge. Despite sphincteroplasty, the final occlusion cholangiogram revealed a retained stone. A 10 Fr 7 cm double pigtail stent was placed.

The patient then returned at 4 weeks for cholangioscopy and planned EHL to remove the retained stone. The biliary stent was removed, and the bile duct cannulated with a sphincterotome and 0.025 inch hydrophilic wire. Cholangiogram continued to show a filling defect in the distal CBD. The SpyGlass cholangioscope was then advanced over the wire to the hilum and slowly withdrawn. No stones were identified but there was a nodule in the distal bile duct. SpyBite Max biopsies were taken from the target area in order to obtain a sample for histology. Contrast drainage was excellent at the end of the procedure, so no biliary stent was placed.

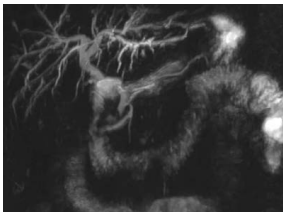


Figure 1

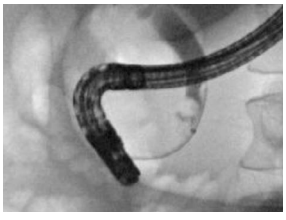


Figure 2

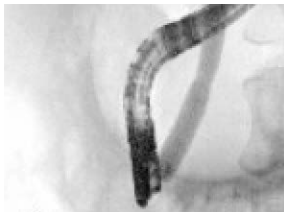
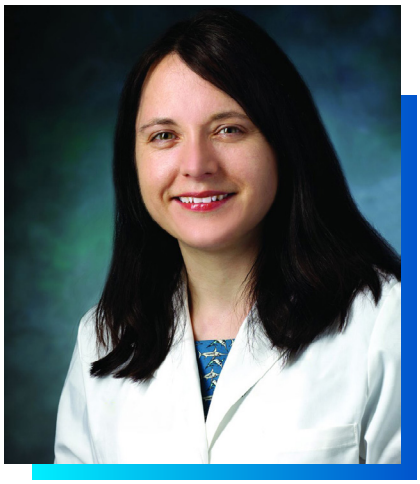


Figure 3



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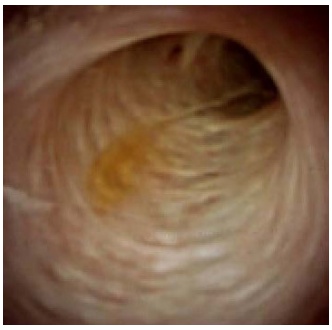
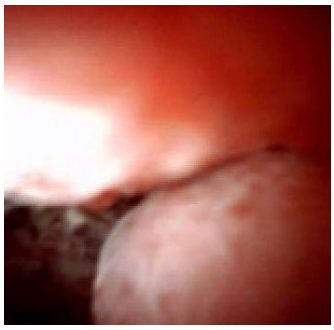
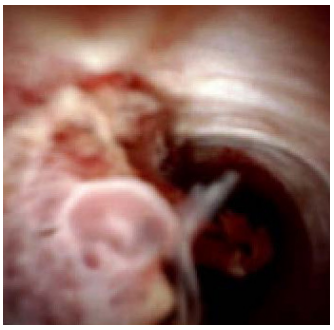
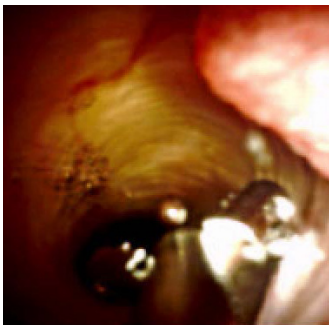
Procedure/ Techniques used

- Imaging the distal bile duct during cholangioscopy can be challenging but adopting a short duodenoscope position and very slow withdrawal was found to be helpful.
- When it was difficult to advance the SpyBite Max Biopsy Forceps, advancing the cholangioscope into the duct before advancing the forceps helped. Once the forceps are at the tip of the SpyGlass cholangioscope, slow withdrawal to the target area was undertaken.

Post-procedure

Pathology from the SpyBite Max Biopsy Forceps confirmed high-grade dysplasia in the nodule. Biliary brushings just showed benign biliary epithelium. The patient was referred for a Whipple resection, which was performed two weeks later. Final pathology confirmed a T1N0M0 cholangiocarcinoma. The patient recovered well and had no surgical complications.

Diagnostic impact

Five-year survival for cholangiocarcinoma is only 30%, but as this tumor was detected at a very early stage and the surgical resection was complete with clear margins, the patient has a significantly improved prognosis.

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