

# Providing a Definitive Diagnosis of Cholangiocarcinoma for a Patient who Underwent 4 Failed Diagnostic Tests



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## technique spotlight

### Patient History

A 64-year-old female presented with jaundice, chills, and progressive fatigue. The patient was well until 3 months earlier when she was diagnosed with a hilar mass, causing suspicion of cholangiocarcinoma. An ERCP at that time revealed right and left hepatic duct strictures (Figure 1). She was successfully decompressed with the placement of two plastic biliary stents into the left and right hepatic systems. She then underwent an extensive work-up including biliary brushings via ERCP, two EUS procedures with FNA, and an exploratory laparotomy with hepatic wedge resection of suspected metastatic disease. Unfortunately, pathology from the above examinations failed to yield a diagnosis. Given the suspicion for cholangitis, an ERCP was recommended for biliary decompression via stent removal. In addition, cholangioscopy with biopsy using the SpyGlass™ DS System and SpyBite™ Biopsy Forceps was recommended to aid in establishing a diagnosis.



### Procedure

An ERCP was performed and two occluded biliary plastic stents were noted with no bile flow into the duodenum. The stents were removed and deep cannulation of the CBD into the right hepatic duct was achieved over a 0.035" guidewire using a sphincterotome. Once the wire was in place, a retrieval balloon was used and copious purulent fluid was drained from the bile duct. Next, a cholangiogram was performed (Figure 1), which revealed a 15 mm stricture of the right hepatic and a very tight ~15mm stricture of the left hepatic duct. At this point, the balloon was exchanged for the SpyGlass DS System's SpyScope™ DS Access and Delivery Catheter, which was used to directly examine the right and left hepatic duct strictures. The right hepatic



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stricture was easier to access and revealed significant narrowing, loss of vascular pattern with congested, erythematous and friable mucosa (Figure 2). Next, the SpyBite Biopsy Forceps were introduced and a direct biopsy of the right hepatic stricture was performed. The patient was then decompressed with successful placement of a 10Fr x 12cm Advanix™ Biliary Stent into the right hepatic duct and a 7Fr x 15cm Advanix Biliary Stent into the left hepatic duct (Figure 3).

## Post-Procedure

The patient did very well and did not experience any complications. Her liver biochemistry completely normalized within 4 days, and her jaundice and fever were also resolved. Biopsies of the right hepatic duct stricture taken under direct visualization with SpyBite™ Biopsy Forceps confirmed adenocarcinoma, consistent with cholangiocarcinoma.

## Discussion

This case demonstrates the utility of the SpyGlass™ DS System using SpyBite Biopsy Forceps in achieving tissue diagnosis in an otherwise elusive case. The patient underwent 4 modalities (biliary brushing, two EUS with FNA and exploratory laparotomy) for obtaining tissue from this hilar mass prior to our examination, all of which were non-diagnostic. Fortunately, the SpyGlass DS System with SpyBite Biopsy Forceps helped provide a definitive diagnosis and helped guide her oncologic management.



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### Potential Economic Impact (US Only)

Earlier use of the SpyGlass DS System may have helped to avoid an exploratory laparotomy with hepatic wedge resection, potentially saving the hospital system \$20,111 in surgical costs.

| ICD-9 Principal Procedure Code | Code Description    | Costs, \$ (median) |
|--------------------------------|---------------------|--------------------|
| 50.22                          | Partial hepatectomy | <b>\$20,111</b>    |

Earlier use of the SpyGlass DS System may have helped to avoid several outpatient procedures costing between \$1,689 and \$2,187.\*

| CPT® Code | Code Description  | 2015 Medicare Geometric Mean Cost - Outpatient |
|-----------|---|--|
| 43260     | Endoscopic retrograde cholangiopancreatography (ERCP); diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)  | <b>\$2,187</b>                                 |
| 43242     | Esophagogastroduodenoscopy, flexible, transoral; with transendoscopic ultrasound-guided intramural or transmural fine needle aspiration/biopsy(s) (includes endoscopic ultrasound examination of the esophagus, stomach, and either the duodenum or a surgically altered stomach where the jejunum is examined distal to the anastomosis) | <b>\$1,689</b>                                 |

\*Source: Medicare's CY 2017 OPPS Cost Statistic File

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