

Comparing The Efficacy of Biliary Brushings to that of SpyGlass-Directed Biopsies in the Evaluation of Biliary Strictures

Treymone Singletary; Lindsay Grasso; Dr. Christine Schammel; Stella Self; Dr. Mark Devane; Dr. Wesley Jones; Dr. David Schammel

University of South Carolina School of Medicine Greenville; Prisma Health

Introduction

- Historically, one of the greatest limitations associated with the use of fluoroscopy-guided biliary duct brush biopsies during ERCPs has been the inability to achieve direct visualization of the duct. With the development of the SpyGlass DS System, endoscopists gained the ability to achieve direct visualization of the biliary tree.
- Histopathological analysis of biliary biopsies without direct visualization produced an accuracy of 89.2%, while diagnosis based on visual impression alone showed an accuracy of 90.3%, and the combination of direct visualization and histopathological analysis of the biopsy showed an accuracy of 94.65.
- The SpyGlass DS System also addresses two of the most troublesome obstacles associated with conventional cholangioscopy.
 - While conventional cholangioscopy requires two endoscopists to perform the procedure, SpyGlass allows for the procedure to be performed by only one endoscopist.
 - The SpyGlass apparatus also contains a separate irrigation channel, which enables the endoscopist to continually flush the bile duct to improve visibility and reduce the risk of post-procedure cholangitis.

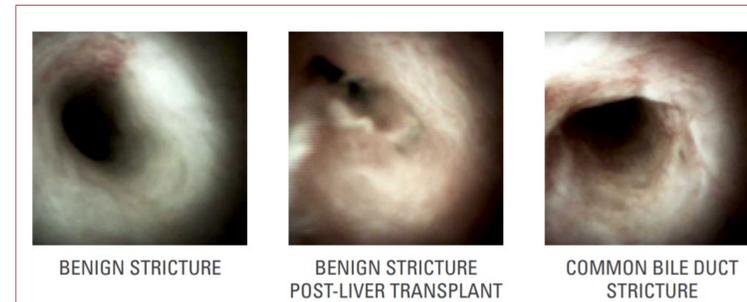


Figure 1. Intraoperative photos of benign bile duct strictures captured using the SpyGlass DS System



Figure 2. Intraoperative photos of malignant biliary strictures captured using the SpyGlass DS system. These photos depict visual findings associated with malignancy that could not be detected with the use of fluoroscopy alone.

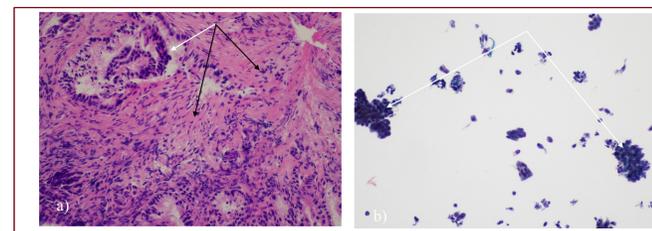


Figure 3. Adenocarcinoma a) **Spybite.** adenocarcinoma (white arrow) surrounded by fibrosis residual mucosa at the bottom of the picture. b) **Brushing.** adenocarcinoma (white arrows) with cell fragments, some of which are normal epithelium

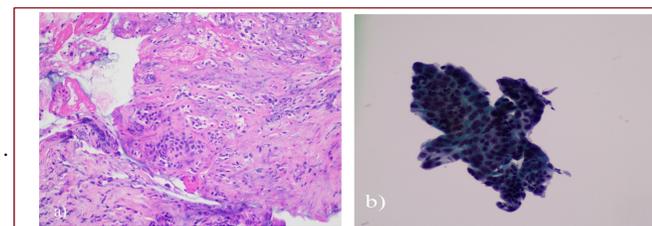


Figure 4. Benign. a) **Spybite.** Benign cellular architecture is apparent with mucosa noted. b) **Brushing.** Benign epithelium.

Results

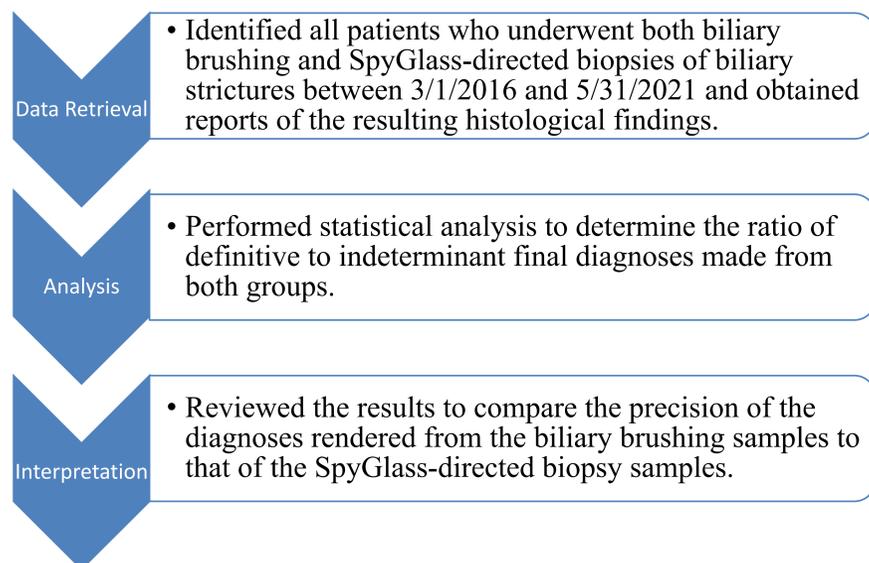
	Biliary Brushing	SpyGlass
Benign	17	20
Malignant	8	12
Indeterminant	15	8
Definitive results	62%	80%

Table 1: A comparison of the final diagnosis rendered from the histological analyses performed on the samples obtained using the traditional biliary brushing technique to those obtained from SpyGlass Directed biopsies. The SpyGlass biopsies produced definite results in 80% of the samples, compared to the 60% produced from the biliary brushing samples.

Discussion

- The results of this experiment suggest that the use of the SpyGlass DS system to obtain biopsies of biliary strictures is more efficacious than the use of the traditional biliary brushing technique.
 - The SpyGlass-directed biopsies successfully retrieved tissue samples that were sufficient for the definitive diagnosis of 67% of the cases where the traditional biliary brushing technique resulted in indeterminant findings.
- In this study, there was only one instance where the SpyGlass-directed biopsies produced indeterminant result while the traditional biliary brushing technique resulted in a definitive diagnosis. This may be attributed to external perioperative factors, such as differences in the precise location at which the biopsies were taken, or the failure to obtain sufficiently-size tissue samples during this patient's procedure.

Methods



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