

Role of the new generation single-operator cholangioscopy in the diagnosis of indeterminate biliary lesions: a multi-centre prospective UK study

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Background

Accurate diagnosis in patients with indeterminate biliary strictures remains challenging. Advances in cholangioscope design might facilitate improved visual and pathological diagnosis.

Aim

To compare the diagnostic yield between brushings, cholangioscopy-directed Spybite biopsies (SB) and visual impression at cholangioscopy in patients presenting with indeterminate strictures referred for cholangioscopy using SpyGlass™ DS.

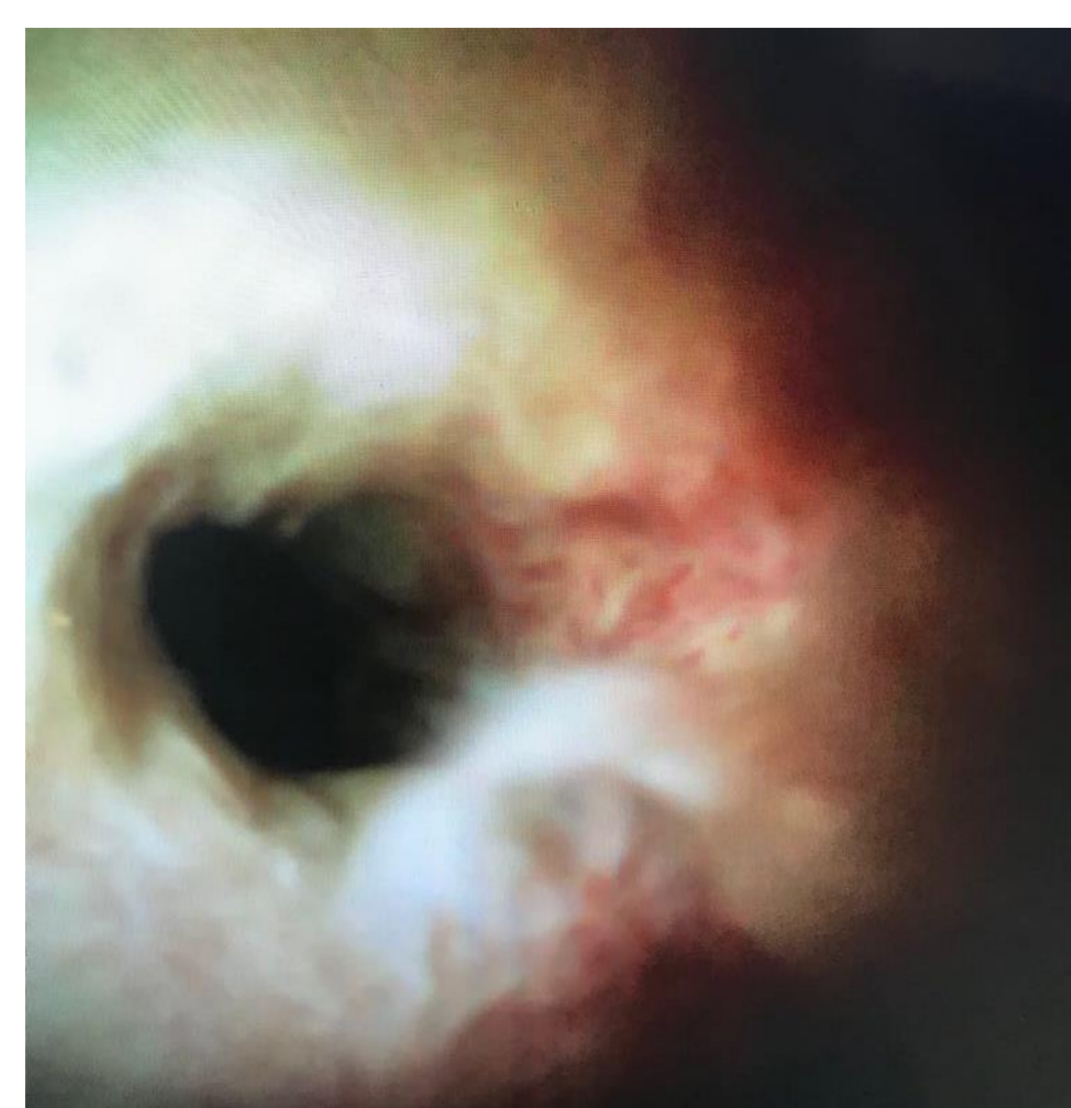
Methods

Prospective audit data was collected from 3 tertiary UK centres between June 2015-August 2017.

Continuous data was expressed in mean values with 95% confidence intervals (CI) using the student t-test and categorical data was analysed using chi-square test.

Results-I

76 (41 M) patients, had cholangioscopy for indeterminate strictures. Six patients were excluded from analysis as they were lost to follow-up (n=3) or were awaiting further investigations (n=3). Seven patients (10%) had strictures in association with stones. Brushings were repeated at cholangioscopy in 31 patients.



Results-II

Table 1. Demographic characteristics

Parameter	n=71
Age, mean (\pm SD), years	57 (18.3)
Sex, no. (%)	
Male	41 (58)
Female	30 (42)
Relevant medical history, no. (%)	
PSC	21 (29.6)
Previous non-biliary cancer	3 (4.2%)
Previous biliary surgery for benign disease	2 (2.8%)
No relevant additional biliary history	45 (63.4)
Previous investigations, no. (%)	
Brushings	40 (53%)
Previous EUS-FNA	8 (10.5%)
Non-diagnostic fluoroscopy guided intraductal biopsy	1 (1.3%)

Table 2. Diagnostic yield for brush cytology, SpyBite biopsies (SBs) and visual impression. PPV: positive predictive value. NPV: negative predictive value.

	Brush n=31	SBs n=58	Visual impression n=70	Combined SB+visual impression
Sensitivity	33% (CI 12-62%)	44% (CI 23-66%)	73% (CI 50-89%)	58% (CI 42-72%)
Specificity	100% (CI 79-100%)	100% (CI 90-100%)	67% (CI 51-80%)	81% (CI 71-59%)
PPV	100% (NA)	100% (NA)	52% (CI 40-63%)	63% (CI 51-74%)
NPV	62% (CI 53-70%)	73% (CI 65-79%)	83% (CI 71-91%)	77% (CI 70-83%)

Conclusion

Cholangioscopy using SpyGlass™ DS appears to advance the diagnostic yield beyond that achieved with conventional ERCP techniques, but the diagnosis of indeterminate strictures remains challenging. Visual acuity is excellent, but characteristics to distinguish benign from malignant remain inexact. Further improvements in tissue acquisition technologies, with larger sample size, may improve the yield from visually targeted biopsies.

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