PTH-011 ROLE OF THE NEW-GENERATION CHOLANGIOSCOPY IN THE DIAGNOSIS OF INDETERMINATE BILIARY LESIONS: A MULTI-CENTRE STUDY

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

Objective 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.

Methods Prospective audit data was collected from 3 tertiary centres between June 2015-August 2017. Continuous data was expressed in mean values with 95% confidence intervals (CI) and categorical data was analysed using chi-square test.

Abstract PTH-011 Table 1 Diagnostic outcome of biliary brushings, Spybite biopsies (SB) and visual impression at cholangioscopy

	Brush n=31	SB n=58	Visual impression n=70	Combined SB+visual impression
Sensitivity	33% (95%CI 12%–62%)	44% (95%CI 23%–66%)	73% (95%CI 50%–89%)	58% (95%CI 42%–72%)
Specificity	100% (95%CI 79%–100%)	100% (95%CI 90%–100%)	67% (95%CI 51–80)	81% (95%CI 71%–89%)
PPV	100% (95%CI NA)	100% (95%CI NA)	52% (95%CI 40%–63%)	63% (95%CI 51%–74%)
NPV	62% (95%CI 53%–70%)	73% (95%CI 65%–79%)	83% (95%CI 71%–91%)	77% (95%CI 70%–83%)

PPV: positive predictive value; NPV: negative predictive value; SB: Spybite

Results 76 (41 M) patients, mean age 57 years (95% CI 53–62), 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. Of 69 (90%) with indeterminate strictures 40 (53%) had had previous negative brush cytology, 9 (11.8%) had had non-diagnostic FNA, and one had negative intraductal biopsies. Brushings were repeated at cholangioscopy in 31 patients, with sensitivity and specificity of 33% (95%CI 12%–62%) and 100% (95%CI 79%–100%) for malignancy, respectively. Cholangioscopy guided SBs were taken in 58 patients and SB were not taken in 12 patients due to: stones mimicking strictures n=7, normal mucosa n=3, Mirizzi n=1, scope impassable due to stricture n=1. The SB had sensitivity and specificity of 44% (95%CI 23%–66%) and 100% (95%CI 90%–100%), respectively. Overall, a mean number of 4.6 (95% CI 3.7–5.5) SB samples were taken per patient with median size 2.2 mm (range 0.9–7). There was no difference in size between reported sufficient 1.5 (0.5–2.4) mm or insufficient (PANC-1) SB biopsies in 6 patients (10%) and these correlated with more false negative (FN) findings compared to sufficient

biopsies (p=0.001). Cholangioscopic views were excellent in all patients and had sensitivity and specificity of 73% (95%CI 50%–89%) and 67% (95%CI 51–80), respectively. Sensitivity and specificity for SB were significantly different between those for visual impression (p=0.0004).

Conclusion The new generation cholangioscope has acceptable diagnostic yield, where visual impression exceeds the conventional SB confirmation. Despite excellent visualisation of indeterminate strictures a definitive visual diagnosis remains challenging. It is hoped that further improvements in tissue acquisition technologies might advance pathological diagnosis.

PTH-012 THE IMPACT OF CHOLANGIOSCOPY ON RADIATION EXPOSURE IN ERCP

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Introduction Endoscopic retrograde cholangio-pancreatography (ERCP) remains the standard tool for biliary stone extraction, biliary drainage and intraductal stricture assessment. Cholangioscopy allows direct intraductal visualisation without requiring fluoroscopy. Therefore, the aim of this study was to assess radiation dose during ERCP in patients with stones or strictures with or without cholangioscopy.

Methods Data from patients referred for cholangioscopy between June 2015 and December 2016, for difficult biliary stones (following failed stone extraction with conventional ERCP), or to acquire tissue diagnosis for indeterminate strictures was prospectively collected. In all patients with stones, first conventional ERCP was attempted, using mechanical lithotripsy and or sphincteroplasty combined with balloon trawls before cholangioscopy was attempted.

Radiation exposure was indirectly measured using total dose area product (DAP) measured in Grey per square cm (Gy/cm²). Continuous variable differences were assessed using Student t-tests.

Results A total of 194 patients, mean age 62±18 years [48% male] were included based on intention to undergo cholangioscopy. Indications comprised: 128 with stone disease, 56 strictures, 7 stone and stricture and 3 ‘other’. Conventional ERCP for stone clearance sufficed for 29 (23%) patients without cholangioscopy (group I); 1 patient had conventional ERCP for a stricture. Cholangioscopy was needed in 99 (77%) patients (group II) for stones and 55 (98%) patients referred for strictures (group III).

The mean DAP in group I was 85±661 compared to 1912±1817 Gy/cm² in group II; p=0.003. Radiation dose for conventional ERCP radiation for stones was comparable to the dose (857±921 Gy/cm²) needed for stricture assessment for group III; p=0.98. The mean duration of the procedure (minutes) was 48±20 in group I, vs 72±27 in group II; p=0.0001. For strictures necessitating cholangioscopy, 49±19 min were needed for assessment which was comparable to group I; p=0.92. Radiation dosages per minute were persistently higher in group I compared to group II; 17±12 vs 29±24 Gy/cm²/min (p=0.02). As only 1 patient had stricture not necessitating cholangioscopy, no comparison was made between group III for above findings.

Conclusion Cholangioscopy for stones adds considerably to procedure duration and total radiation dose compared to