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DIAGNOSTIC AND THERAPEUTIC UTILITY OF SPYGLASS PERORAL CHOLANGIOSCOPY FOR INDETERMINATE BILIARY LESIONS AND BILE DUCT STONES

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E Kalaitzakis,^{1,*} G Webster,² P Vlavianos,³ R Burnham,² Y Kallis,³ A Hatfield,² R Aljabiri,² D Westaby,³ R Sturgess¹ ¹*Department of Gastroenterology, Aintree University Hospital, Liverpool, UK;* ²*Department of Gastroenterology, University College London Hospital, London, UK;* ³*Department of Gastroenterology, Hammersmith Hospital, London, UK*

Introduction Peroral cholangioscopy (POC) enables direct visual examination of bile ducts, tissue sampling and therapeutic interventions. The authors aimed to evaluate the diagnostic utility of Spyglass POC for indeterminate biliary lesions and its usefulness in electrohydraulic lithotripsy (EHL) of bile duct stones not amenable to conventional endoscopic therapy.

Methods A total of 141 consecutive patients (mean age 61 years (SD15); 62F), undergoing 149 attempted Spyglass procedures, in 3 UK tertiary referral centres between 2008 and 2010 were retrospectively enrolled. The authors estimate that >80% of all Spyglass procedures performed for indeterminate biliary lesions or EHL of stones in the UK are included. Brush cytology or POC-directed biopsies were obtained as clinically indicated. Patients were followed up for a mean of 9 months (7). The operating characteristics of POC for detecting malignant biliary lesions were calculated using a composite reference standard that included surgery, tissue sampling and follow-up. Bile duct clearance after POC-EHL was also determined using stone recurrence at follow-up as a reference standard.

Results Indications for Spyglass procedures included 108/149 (72%) stricture assessment, 16/149 (11%) intraluminal mass assessment and 25/149 (17%) EHL for stones. The Spyglass cholangioscope could be inserted in the bile duct in 140/149 (94%) and adequate mucosal visualisation was achieved in 121/149 (81%). A diagnosis of cancer was made in 36/149 (24%). Brush cytology sampling was performed in 60/149 (40%) with 50/60 (83%) yielding sufficient samples. POC-directed biopsies were performed in 67/149 (45%) with 52/67

(78%) yielding sufficient samples. The sensitivity, specificity, positive and negative predictive values and accuracy of POC for the diagnosis of malignant lesions were 72%, 97%, 93%, 86% and 88%, respectively. 17 out of 36 (42%) malignant lesions were correctly identified at Spyglass POC (with/without tissue confirmation). In all 27 EHL procedures were performed in 25 patients. Bile duct clearance was achieved in 17/25 (68%) with a further 2/25 (8%) awaiting further procedures. There were 11/149 (7%) adverse events (8 cholangitis/sepsis, 1 postsphincterotomy bleed, 1 hypotension, 1 pancreatitis). Two adverse events were severe (1 death and 1 ITU admission both with sepsis) and one was moderate (sepsis).

Conclusion In experienced hands, Spyglass POC is very accurate in the diagnosis of malignant biliary lesions and effective for the treatment of bile duct stones not amenable to conventional endoscopic therapy. The complication rate is comparable to that of conventional ERCP with sepsis being the most common adverse event.

Competing interests None.

Keywords biliary tree, ERCP, Per oral cholangioscopy.