

**PTH-066 CHOLANGIOSCOPY-ASSISTED ELECTROHYDRAULIC LITHOTRIPSY IS HIGHLY EFFECTIVE IN THE MANAGEMENT OF DIFFICULT BILE DUCT STONES**

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**Introduction** Although conventional endoscopic techniques for the removal of stones from the biliary tree are highly effective, they fail in up to 10% of patients with choledocholithiasis. With the introduction of single operator peroral cholangioscope (POC), the SpyGlass® System, stone fragmentation under direct visual control has proven to be highly effective and is now emerging as an important endoscopic therapy. We describe the characteristics and outcomes of patients undergoing POC directed electrohydraulic lithotripsy (POC-EHL) in two tertiary Hepatobiliary units in England.

**Methods** Details of all patients undergoing POC-EHL at Aintree University Hospital and University College London Hospitals were prospectively recorded. Data collected included demographics, number of ERCPs, site of the stone, number of POC-EHL sessions, success of stone clearance and complications.

**Results** A total of 93 patients were referred for POC-EHL. There were 25 males (27%) and 68 females (73%). The median age was 65 (20–92) years. 71 (76%) patients were tertiary referrals. 62 (67%) patients had at least two or more endoscopic attempts at stone removal prior to referral for POC-EHL. In six patients POC-EHL was not required because at ERCP prior to POC, the ducts could be cleared with conventional techniques. In five patients EHL was not attempted due to the size, configuration and quantity of stones. With the knowledge that these patients were fit for cholecystectomy, they were referred for cholecystectomy and bile duct exploration as a one-stage procedure. All POC-EHL sessions were performed under general anaesthesia. Of the 82 patients undergoing POC-EHL 61 (75%) patients needed one POC-EHL session and 10 (12%) required two sessions and 6 (7%) required three sessions for complete stone extraction. In 5/82 (6%) complete stone extraction was not possible despite POC-EHL and these patients were referred for surgery. The sites of stones were common bile duct in 48%, cystic duct and CBD in 20%, cystic duct in 4%, common hepatic duct in 10% and intra-hepatic ducts in 18%. Three patients developed cholangitis post POC-EHL, responding to antimicrobial therapy. Two patients experienced post-procedure bleeding, only one patient required endoscopic intervention.

**Conclusion** On an intention to treat basis, 89% of patients referred for POC-EHL were treated successfully. Successful POC-EHL frequently requires combination with other stone removal techniques including mechanical lithotripsy. POC-EHL appears to be a safe and effective technique in the clearance of refractory biliary stones.

**Disclosure of Interest** None Declared.

**PTH-067 YIELD OF ENDOSCOPIC ULTRASOUND (EUS) IN PATIENTS WITH DILATED COMMON BILE DUCT (CBD) AND OR PANCREATIC DUCT (PD) WITH NORMAL LIVER FUNCTION TEST (LFTS) AND CROSS-SECTIONAL IMAGING**

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**Introduction** The finding of dilated CBD or PD or both (double duct sign) on abdominal cross-sectional imaging (CT or MRI) in

patients with normal LFTs frequently leads to further investigation by EUS if a clear cause is not demonstrated on imaging. There is limited literature on the yield of EUS in this setting.

**Methods** A retrospective review of our prospectively maintained EUS database was carried out to identify patients who underwent EUS for dilated duct(s), normal LFTs and non-diagnostic cross-sectional imaging between January 2007 and August 2011. Our aim was to evaluate the yield of EUS in this setting. Minimum follow up was for 12 months.

**Results** 83 patients (3% of pancreaticobiliary EUS procedures during this period) were identified. Mean age was 66.7 years (30–87). There was a female preponderance (73%). 40(48%) had dilated CBD only, 5(6%) had solitary PD dilatation and 38(46%) had both CBD and PD dilatation on prior imaging. EUS was concordant with prior imaging in 60(72%) patients and discordant in 23(28%) [partial agreement in 18, non-dilated ducts in 3 and different duct dilated in 2]. 16(19%) patients had a new finding on EUS [3 cbd stones, 3 cbd polyps, 4 microlithiasis, 1 ampullary adenoma, 3 chronic pancreatitis, 1 pancreatic duct adenocarcinoma (PDAC) and 1 portal vein compressing mid CBD]. Of these 11(13%) were felt to be the cause of duct dilatation. On subsequent MDT review, the PDAC was identified on the initial scan from the referring hospital. 45% (10/22) of males compared to 9.8% of (6/61) females had a new finding on EUS ( $p = 0.0008$ ). Overall, more females had symptoms compared to males ( $p = 0.065$ ). There was no significant association between symptoms and new finding on EUS ( $p = 0.24$ ). 7(17.5%) of the isolated CBD dilatation, 3(60%) of the isolated PD dilatation and 1(2.5%) of the dilated CBD and PD had a causative diagnosis respectively. Follow up of patients with no cause of duct dilatation on EUS revealed that 18 patients (54.5%) in the dilated CBD cohort had prior cholecystectomy [one patient had peri-ampullary diverticulum and prior cholecystectomy] while 2 and 10 patients in the dilated CBD and PD cohort ( $n = 37$ ) had ampullary stenosis and prior cholecystectomy respectively.

**Conclusion** Our study shows that EUS has a significant yield in individuals with unexplained duct dilatation and normal LFT (13% had a causative diagnosis). The yield was highest in isolated PD dilatation. A new finding was significantly more likely in men than women. EUS should ideally follow review of original cross sectional imaging by a HPB radiologist.

**Disclosure of Interest** None Declared.

**PTH-068 THE USE OF OESOPHAGEAL CAPSULE ENDOSCOPY IN PATIENTS WITH HAEMOPHILIA; EXPERIENCE FROM A TERTIARY CENTRE**

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**Introduction** A great proportion of haemophiliacs are considered at risk of being co-infected with hepatitis C (HCV) and variant Creutzfeldt-Jakob Disease (vCJD). <sup>1</sup> Chronic hepatitis C leads to liver cirrhosis, which in turn causes portal hypertension and varices. <sup>2</sup> Alternative endoscopic modalities have been developed for the investigation of the upper gastrointestinal (GI) tract, such as oesophageal capsule endoscopy (OCE). However, OCE is widely accepted and its indications are still under evaluation. <sup>3</sup> Our aim was to evaluate the use of OCE in a tertiary referral centre for GI problems in Lothian, Southeast Scotland, giving a special focus on OCE in haemophiliacs.

**Methods** A retrospective review of the OCE database from May 2005 to March 2012. Electronic case notes and OCE reports were reviewed. Demographics and clinical background, in particular haemophilia, hepatitis C, HIV and cirrhosis, reason for referral and OCE findings were abstracted.

**Results** A total of 65 OCEs (50 patients; 27 M/23 F; mean age: 52.7 ± 13.7 years) were carried out in the aforementioned period. 32% pts had haemophilia (16/50 patients/all male; mean age: 51.6 ± 9.8 years; range 31–78 years; 28 OCEs); 5 pts had repeat OCEs (1 pt: 1 repeat, 2 pts: 2 repeat, 1 pt: 3 repeat & 1 patient: 4 repeat OCEs). All haemophiliacs were infected with HCV; 2 pts were co-infected with HIV. 3/16 (18.75%) of haemophiliacs had established cirrhosis, 5/16 (31.25%) probable cirrhosis. In haemophiliacs, indications for OCE were: variceal surveillance (OCEs **group A**: 17/28; 60.7%) and/or other upper GI symptoms (OCEs **group B**: 11/28; 39.3%). PillCam<sup>®</sup>ESO1 was used in 15/28 (53.6%) occasions and PillCam<sup>®</sup>ESO2 for the rest (13/28; 46.4%). The overall diagnostic yield (DY) of OCE in haemophiliacs was 78% (21/28). The DY was similar in OCEs group A: 64.7% (findings in 11/17) and OCEs group B: 54.5% (findings in 6/11),  $P = 1.0$ . Oesophageal transit times were mean: 166s; range: 3–1171s. All capsules reached the stomach, but only 8/28 (28.5%) capsules entered the duodenum.

**Conclusion** OCE is a useful and acceptable alternative to conventional endoscopy in selected groups of patients. In particular, OCE in haemophiliacs has a high DY and should be considered a first line investigation to guide further endoscopic intervention.

**Disclosure of Interest** None Declared.

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#### PTH-069 DOES DIVERTICULOSIS PROTECT AGAINST SIGMOID CANCER?

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**Introduction** With the advent of the English National Bowel Cancer Screening Programme (BCSP), a higher proportion of left-sided cancers than expected has been documented<sup>1</sup>. A high incidence of diverticular disease in the left colon has also been seen<sup>2</sup>. Anecdotally we observed that within the BCSP, relatively few sigmoid colon cancers were detected in people with sigmoid diverticulosis.

**Methods** An observational, retrospective analysis was performed of all BCSP FOB diagnostic colonoscopies between July 2007 and end June 2012. Patients reported to have sigmoid diverticulosis were identified and the incidence of colorectal cancer in the sigmoid colon was recorded. Chi square with Yates correlation statistical analysis was performed with a  $p$  value of  $< 0.05$  considered significant.

#### Results

Abstract PTH-069 Table 1

	No Sigmoid CRC	Sigmoid CRC	Grand Total
No Sigmoid Diverticulosis	97241	3878	101119
Sigmoid Diverticulosis	38480	860	39340
Grand Total	135721	4738	140459

In the 5 year study period, 140,459 BCSP colonoscopies were performed for a positive faecal occult blood (FOB) indication. Sigmoid colon cancers were found in 3.4% of procedures ( $n = 4738$ ). Sigmoid diverticulosis was documented in 27.4% of procedures ( $n = 38480$ ). Patients with sigmoid diverticulosis were less likely to have

co-existing sigmoid colorectal cancer (3.99% of those patients without sigmoid diverticulosis had sigmoid colorectal cancer versus 2.23% of those patients with sigmoid colorectal cancer,  $p < 0.0001$ ).

**Conclusion** This inverse association between sigmoid cancer and diverticulosis has not previously been reported but warrants further investigation. Potential explanations include increased likelihood of FOB positive result with diverticulosis (false positive; we consider this the most likely explanation), under-reporting of diverticulosis when a cancer is detected, missed lesions within the diverticular segment (unlikely, as for this to account for the difference this would mean almost half of sigmoid cancers being missed), or possibly a protective effect due to changes in bacterial flora in the diverticular segment. Further study in non-FOB populations is appropriate.

**Disclosure of Interest** None Declared.

#### REFERENCES

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#### PTH-070 ENDOSCOPIC RESECTION OF GIANT, (> 4CM) SESSILE/FLAT COLONIC POLYPS: TECHNIQUES AND OUTCOMES

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**Introduction** Giant, sessile/flat colon polyps (> 4cm) are challenging to remove endoscopically and many lesions are still treated with laparoscopic or open segmental resection.

**Methods** From our prospective, tertiary referral, polypectomy database of large colorectal polyps, 107/297 consecutive patients with 109/316 colon polyps, were referred for endoscopic resection of > 4cm flat/sessile colon polyps with a mean size ( $\pm$  SD), 52 ± 22mm. Reasons for tertiary referrals were large polyp size/extent with moderate to severe submucosal fibrosis (SF) (37%), difficult endoscopic access (36%) or failure to adequately lift (24%). Polyps were assessed and treated using 'inject and cut' piecemeal Endoscopic Mucosal Resection (P-EMR) or P-EMR with Endoscopic Mucosal Ablation (P-EMR/EMA). Supplementary techniques such as Endocuff-assisted polypectomy (EAP) and Laparoscopic-assisted endoscopic polypectomy (LAP) were employed to improve endoscopic access. Completion rates, recurrence, and adverse events were documented prospectively.

**Results** Nineteen P-EMR/EMA hybrids, 29 Spiral snare (Olympus) P-EMR's and 2 EAP's were performed to treat polyps with SF (42% previously failed polypectomy attempt at referring centre, 7.5% tattoo under polyp and 51.5% lesion-related fibrosis) and improve endoscopic access. Polypectomy was considered successful in 94.5% in a single session with mean procedure time ( $\pm$  SD), 43 ± 12.2 min. One deep submucosal tear (0.9%) was successfully treated with endoclips. Eight patients (7.4%) required hospitalisation due to delayed post-polypectomy bleeding with one undergoing emergency laparotomy. There was no mortality. First follow up (3/6 months) was attended by 92/107 patients with no recurrence in 41/92 (3 malignant polyps favourable histology), easily treatable benign recurrence of < 10mm in 39/92 and > 10mm recurrence in 12/92 (one patient with large rectal recurrence had a TEMS procedure and two patients with histology showing malignancy had segmental resections). A second f/u (9/15 months post initial resection) was performed in 40/92 patients with no recurrence in 28/40, < 10 mm benign recurrence in 11/42 (continuing surveillance) and one benign recurrence > 10mm (continuing surveillance).

**Conclusion** Endoscopic resection of giant, > 4cm, sessile/flat colon polyps demands a multi-modality approach, but good medium term