

about half of affected patients. It is usually performed if rapid diagnosis is needed or in a patient who has ileus. However, some patients with CD colitis will have pseudomembranes only in the right colon. Our aim was to assess whether patients, with confirmed CDAD, had their management altered following FS.

**Methods** A single centre, retrospective analysis of patients who had a FS with stool culture confirmed CDAD admitted to our CD ward (CDW) over 7 years (March 2005–2012) was performed at a district general hospital in North London. The medical notes, endoscopy database and electronic results of patients on CDW undergoing FS was scrutinised.

**Results** 18 patients on CDW had a FS during the study period. 2 patients were excluded as they were found to be CD negative. 16 of the 1535 (1.04%) patients diagnosed with CDAD at our hospital during this period had a FS. The mean age was 74.1 (range 37–93) with 6 males. FS was requested 27 days (range 1–100) and the procedure was performed 40 days (range 10–110) after the diagnosis of CD was made. The indications were persistent diarrhoea in 82% (13/16), bleeding PR 6% (1/16), abnormal CT scan 6% (1/16) and previous CMV colitis 6% (1/16). 8(50%) patients had a normal FS, 2(13%) had pseudomembranous colitis, and 1 (6%) patient each had adenocarcinoma, colonic polyps, diverticulosis and infective colitis. 2 (13%) patients were newly diagnosed to have ulcerative colitis and were started on mesalazine and steroids along with CD treatment.

**Conclusion** In this study only a small proportion of patients (1.04%) with CDAD underwent FS. However, when FS is performed in patients with CDAD with persistent symptoms it aids in clarification of the diagnosis with an abnormal FS noted in 50% of patients. From our observation we would recommend FS in CDAD if symptoms persist despite treatment due to the high positive findings at FS.

**Disclosure of Interest** None Declared

# PTU-031 ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAM (ERCP) IN PREGNANCY WITHOUT RADIATION

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**Introduction** Pregnancy is associated with an increased risk of gallstone formation, which in turn causes cholangitis and pancreatitis. The prevalence of gallstones in pregnancy has been reported as 3.3 – 12.2%. Cholecystectomy is the second most common non-obstetric surgical procedure in pregnancy, exceeded only by appendicectomy. ERCP is the first-line treatment of choice for cholangitis and pancreatitis caused by choledocholithiasis. However, the use of ERCP in pregnancy is limited because of the primary concern of foetal safety in relation to exposure to ionising radiation. A clear-cut safe radiation dose for ERCP in pregnancy is still unknown. There have been only a few studies of non-radiation ERCP during pregnancy. Our aim is to present our experience with pregnant patients who underwent ERCP without using radiation, and to evaluate the safety and efficacy of this therapeutic pathway for ERCP during pregnancy.

**Methods** A retrospective analysis of ERCPs in pregnant women in a single centre in North London (Chase Farm Hospital) between January 2005 and November 2011 was performed. The unit policy of ERCP in pregnant women is to perform the procedure in the left lateral position using midazolam/pethidine combination. Guide-wire cannulation of the bile duct is adopted with bile aspiration and/or visualisation of bile oozing around the guide wire used as confirmation of biliary cannulation. Bile duct clearance after sphincterotomy is then performed. No fluoroscopy is used during the procedure, but was available if required. Confirmation of successful

therapeutic ERCP was made by laboratory and clinical improvement of the patients.

**Results** Out of 2255 procedures, 4 (0.17%) were performed on pregnant women. The mean age was 31 years (range 29–36), the mean gestation was 16.75 weeks (range 4–30), with two patients in their first, one in their second and third trimesters each. The indications for ERCP were cholangitis and pancreatitis (two), cholangitis (one) and choledocholithiasis on ultrasonography (one). In two cases, precut papillotomy with a needle-knife was used, since the stone was impacted. Sphincterotomy was used in two cases. Stones were removed by balloon or basket trawls and no stents were placed. After ERCP, jaundice resolved in all cases. Post-ERCP complications, premature birth, abortion or intrauterine growth retardation were not observed.

**Conclusion** Our series showed that in experienced hands, successful therapeutic ERCPs with wire-guided cannulation can be performed safely without radiation in pregnant women with strong indications. We would recommend use of this technique (wire-guided cannulation without radiation) if ERCP is required during pregnancy.

**Disclosure of Interest** None Declared

# PTU-032 WOULD YOU LIKE A TRAINEE TO PERFORM YOUR COLONOSCOPY?

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**Introduction** Quality assurance in colonoscopy is underpinned by a framework of nationally agreed quality indicators and auditable outcomes to maintain minimum standards. High quality colonoscopy training is a vital part of ensuring these standards and is important that quality is assured during training lists so these patients receive the same standard of care. It is understandable that patients may be concerned if a trainee is performing their procedure and vital that evidence based consent is obtained to address concerns. This study aimed to compare quality delivered on training and non-training colonoscopy lists in order to inform patients.

**Methods** A 12 month period (Jan 2012 to Jan 2013) of data from the endoscopy reporting system was retrospectively analysed. Caecal intubation rates, procedure duration, endoscopist reported pain score, sedation usage and polyp detection rates were analysed for seven training endoscopists. Data was compared for seven training endoscopists between training and non-training lists. Statistical analyses used  $\chi$  testing and linear regression in Stata 11.

**Results** Complete data were available for 422 training lists and 936 Service colonoscopies (300 BCSP)

Mean(SD) age was similar in service and trainee groups; 61.0(12.3) and 60.6(14.2) years respectively,  $p = 0.657$ . There was no difference in caecal intubation rates between groups (trainees 93.8% and service 94.4%,  $p = 0.657$ ).

Polyp detection was similar amongst trainees 119(28.2%) as non-BCSP service procedures 186(29.3%),  $p = 0.71$ .

Midazolam was used less frequently during service lists(737 [78.7%]) vs (367 [87.0%]) ( $p < 0.001$ ). A statistically but not clinically significantly larger average doses was used 2.3 (0.7) and 2.2(0.7) mg,  $p = 0.001$  during service lists. Interestingly mean doses of fentanyl were similar 59.5(23.2) and 57.7(22.2) mcg,  $p = 0.46$ , but lower mean doses of pethidine 36.8 (12.5) and 43.2 (12.2) mg,  $p = 0.001$  were used during training lists.

Endoscopist reported pain scores were greater on service lists, with 223 (52.8%) trainees and 332 (35.5%) trainers reporting no symptoms, 431 (46.1%) and 143 (33.9%) mild, 149 (15.9%) and 53 (12.6%) moderate, and 24 (2.6%) and 3 (0.7%) severe symptoms respectively ( $p < 0.001$ ).

As expected, procedure duration was longer on training procedures; 30.6 (12.3) vs. 46.6 (14.2) minutes,  $p < 0.001$ .

**Conclusion** In conclusion, colonoscopy is delivered at a similar high quality when performed by trainees compared with trained endoscopists. Although trainees took longer, caecal intubation rates and polyp detection were similar to those of trained endoscopists. Interestingly, patient discomfort reported by endoscopist was lower during training colonoscopies and could possibly relate to longer procedure time. These conclusions will be used for patient information and monitored as quality assurance.

**Disclosure of Interest** None Declared

### PTU-033 META-ANALYSIS OF FLEXIBLE SPECTRAL IMAGING COLOUR ENHANCEMENT (FICE) IN DETECTION AND CHARACTERIZATION OF COLORECTAL POLYPS

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**Introduction** Several endoscopic innovations have been developed recently to improve detection and characterization of colorectal polyps. Flexible spectral imaging colour enhancement (FICE) is a form of image enhanced endoscopy which enhances the visualisation of mucosal structures and microcirculation by the selection of spectral transmission with a dedicated wavelength.

**Methods** Various electronic databases were searched for articles reporting on detection and characterization of colonic polyps comparing standard white light endoscopy and FICE. The pooled mean differences in total numbers of polyps, adenomatous polyps, flat adenomas, and hyperplastic polyps detected was calculated. Additionally, pooled sensitivity, specificity, positive and negative likelihood ratio, diagnostic odds ratio and pooled area under the receiver operating curve was calculated. A fixed effects model was used unless there was significant heterogeneity. Publication bias was assessed using Funnel plots and Egger's test and heterogeneity was assessed using Cochran's Q and the  $I^2$  test.

**Results** 5 studies/2150 patients and 11 studies/2425 patients were included in the analysis for detection of polyps and polyp characterization respectively. There were no differences between FICE and standard colonoscopy for the detection of all polyps, adenomatous

polyps, flat adenoma or hyperplastic polyps (Table 1). Table 2 lists the pooled diagnostic accuracy parameters for FICE. A random effects model was used in both because there was heterogeneity between the studies.

**Conclusion** FICE does not seem to improve the detection rate of adenomatous polyps during screening colonoscopy. These results may partially be due to the small number of studies done so far using FICE. The pooled sensitivity and specificity of FICE does not meet the currently accepted criteria of the ASGE PIVI committee for use in routine clinical practise.

**Disclosure of Interest** None Declared

### PTU-034 ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY IN THE ELDERLY: PROCEDURES AND COMPLICATIONS AT A DISTRICT GENERAL HOSPITAL

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**Introduction** Endoscopic retrograde cholangiopancreatography (ERCP) has previously been demonstrated to be a safe and effective procedure in the elderly. The aim of this study was to assess whether similar safety data for this procedure was reproducible at a district general hospital.

**Methods** All patients undergoing first time ERCP between January 2007 and December 2008 were included. Data collection was partially incomplete as some procedure records were missing. Study variables included age, sex, indications, complications, and in-hospital mortality. Statistical analysis was performed to address differences in complication rates between the elderly (>80 years, Group A) and non-elderly (<80 years, Group B) patients.

**Results** Data was available for 197 ERCPs. Mean age at ERCP was 65.77 years. There were 47 (23.9%) ERCPs in Group A (mean age 86 years, range 81–97), and 150 (76.1%) in Group B (mean age 57 years, range 18–80). The indications and complications for procedures are demonstrated in Table 1.

There were a total of 28 complications, 8 (17.0%) in Group A, and 20 (13.3%) in Group B. There was no significant difference in total complication rates between the 2 groups (Fisher's exact 2-tailed test,  $p = 0.63$ ). Similarly, no significant differences were identified in specific complications between Group A and B (2-tailed Fisher's exact test): bleeding ( $p = 1.00$ ), pancreatitis ( $p = 0.63$ ), biliary sepsis ( $p = 1.00$ ), perforation ( $p = 1.00$ ), others ( $p = 0.20$ ). There were no in-hospital deaths directly related to ERCP in either age group ( $p = 1$ ).

**Conclusion** There was no increase in procedural complication rates or mortality in elderly patients undergoing ERCP in our study population. Our data adds weight to the growing evidence that ERCP is a safe and well tolerated procedure in the elderly.

**Disclosure of Interest** None Declared

**Abstract PTU-033 Table 1** Detection of polyps with FICE

Variable tested	Pooled difference in means (95% CI)	p values
All polyps	0.132 (−0.064 to 0.328)	0.188
All adenomas	0.033 (−0.056 to 0.122)	0.468
Flat adenomas	0.077 (−0.099 to 0.254)	0.389
Hyperplastic polyps	0.104 (−0.072 to 0.280)	0.248

**Abstract PTU-033 Table 2** Characterization of polyps with FICE

Variable tested	Pooled sensitivity (95% CI)	Pooled specificity (95% CI)	Pooled positive likelihood ratio (95% CI)	Pooled negative likelihood ratio (95% CI)	Pooled diagnostic Odds ratio (95% CI)	Pooled area under the receiver operating curve (95% CI)
Polyps < 5mm	85.9% (81.1 to 89.9)	85.5% (79.3 to 90.4)	5.4 (3.75 to 7.77)	0.17 (0.113 to 0.255)	32.81 (16.74 to 64.33)	0.914 +/- 0.017
Polyps < 10mm	91.3% (88.4 to 93.7)	74.7% (68.5 to 80.2)	3.86 (2.37 to 6.30)	0.115 (0.07 to 0.19)	37.08 (16.01 to 85.85)	0.902 +/- 0.08
All Polyps	90.4% (88.3 to 92.2)	86.9% (83.8 to 89.5)	5.96 (2.32 to 15.32)	0.135 (0.08 to 0.225)	45.56 (15.13 to 137.15)	0.945 +/- 0.025