For the ABCB1 gene, G2677T/A allele frequencies were found to be similar to those reported in the literature. There was no association of G2677T/A or C3435T with clinical phenotype, or resistance to treatment. However, 77.3% of 22/222 patients who did not respond to therapy and required surgery, were found to carry both the C3434T and the G2677T mutation.

Conclusion Our study was conducted in a genetically homogeneous population in the island of Crete. No correlation of any single SNP was found with either clinical activity or response to treatment. However, most patients who carried both the G2677T and C3435T mutations were refractory to treatment, a finding which implies that resistance to treatment in IBD patients is a more complex issue, which requires the presence of a genetic locus rather than a single SNP.

Disclosure of Interest None Declared.

PTU-080 CORRELATION OF FDG PET SCANNING WITH ENDOSCOPIC FINDINGS IN PATIENTS WITH CROHN'S DISEASE

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Introduction ¹⁸F- Fluoro-deoxy-glucose Positron Emission Tomography (FDG-PET) scanning is gaining popularity in the assessment of several inflammatory disorders including Crohn's Disease (CD).

Methods 11 patients with established CD, underwent ¹⁸F- FDG--PET scanning that was compared with recent endoscopic data, provided treatment had been unchanged between the two tests. Patients were fasted for 6 h and received 185 MBq of iv FDG followed by 800 ml of oral 2.5% mannitol. A low dose CT scan of the abdomen was performed, followed by PET, at 60 min post FDG injection. PET data was acquired over a maximum of 3 bed positions (10 min/ bed position).

Analysis involved dividing the gut into 6 segments on CT (terminal ileum, ascending, transverse, descending and sigmoid colon and rectum). Segmental maximum standardised uptake value (SUV_{MAX}) and SUV intestine-to-liver ratio (SUV_{ITL} = SUV_{MAX}/Liver SUV_{MEAN}) were calculated. A segment is defined as abnormal (PET +ve) when its SUV_{MAX} > Liver SUV_{MEAN} as per previous literature.¹⁻³ SUV_{MAX} and SUV_{ITL} of endoscopically abnormal versus endoscopically normal PET +ve segments were compared using the Mann-Whitney test.

Results 11 patients (52 gut segments) had PET within a median of 1 month of endoscopy. 21/52 segments were active on endoscopy. Of these 20/21 were also PET +ve. However, 17/31 of endoscopically negative segments were also PET+ve suggesting a sensitivity of 95% and a specificity of 45% in our cohort.

Raising the SUV_{MAX} threshold for defining a PET +ve segment from the existing (>SUV_{LIVER}) to > 3.5x SUV_{LIVER} reduced sensitivity from 95% to 86%, but improved specificity from 45% to 82% compared to the gold-standard of endoscopy.

Conclusion FDG-PET appears to be up to 95% sensitive in identifying segments with endoscopically active CD.

Several 'false positive' segments are also observed conferring a low specificity.

A threshold of segmental SUV_{MAX} signal > 3.5 x SUV_{LIVER} greatly improves sensitivity with a minimar reduction in specificity.

Abstract PTU-080 Table 1 SUV_{MAX} and SUV_{ITL} in endoscopically normal (17) versus endoscopically abnormal (20) PET +ve segments

	PET +ve segments	
	Endoscopically normal	Endoscopically abnormal
SUV _{max} (mean ± SD)	5.4 (±4.1)	10.4 (±4.2)
p value		p = 0.0004
SUV _{ITL} (mean ± SD)	3.0 (±1.9)	5.5 (±1.8)
p value		p = 0.0003

Segments which demonstrate FDG signal but are negative on endoscopy may reflect disease undetected by endoscopy, or may be false positives. A comparison with histological activity is required to clarify this.

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Disclosure of Interest None Declared.

PTU-081 FAECAL CALPROTECTIN AND ILEAL CROHN'S DISEASE: CORRELATION WITH A SMALL BOWEL MRI SCORE FOR DISEASE ACTIVITY

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Introduction Small bowel MRI (SBMRI) is the current standard for assessing ileal inflammation in Crohn's disease. Faecal calprotectin (FC) is closely correlated with colonic inflammation, but is thought to be of less utility in ileal disease. Interpretation of existing data linking FC with SBMRI findings have been confounded by the presence of colonic inflammation. We therefore aimed to ascertain how FC best reflects MRI findings exclusively in the small bowel.

Methods 150 SBMRI studies with matched FC results (±30 days) were identified from the Edinburgh FC Register (2008–12; n = 18,138). Scans were entered into an anonymous 'teaching' list on PACS and each re-read independently by 2 expert GI radiologists blind to all clinical and lab data. Technical, quality and disease parameters were recorded onto standard proformas. Scans rated by one or other radiologist as being of poor quality were excluded (n = 31/150). 7/13 disease parameters were excluded due to poor interobserver variability (Cohen's kappa <0.5). A 6 item simple MRI score (range 0–10) was derived from assessment of the worst segment (bowel wall thickness, oedema, and relative enhancement, mesenteric oedema and pre-stenotic dilatation) plus total disease extent (overall kappa = 0.85). For comparisons with FC, studies where the radiologists reported upper GI or colonic inflammation were excluded (27/119).

Results 150 SBMRI scans were re-evaluated from 123 patients with purely ileal Crohn's (Montreal L1, n = 109; L3 + previous panproctocolectomy, n = 14; 65% female; median age at MRI

Abstract PTU-081 Figure 1

45 years (IQR 32–56); median follow-up 34 months (IQR 25–44). The median (IQR) FC was 80 µg/g (20–142) where SBMRI demonstrated no active ileal disease (simple MRI score = 0, n = 38), 198 µg/g (120–444) for mild to moderate (1–6, n = 30) and 398 µg/g (168–771) for severe disease (>6, n = 24) ($p < 0.001$). ROC analysis showed an AUC of 0.81 (0.72–0.90) for FC which was significantly higher than for CRP (0.65 [0.53–0.77], $p = 0.020$) (Figure 1).

Conclusion FC correlates closely with SBMRI findings in ileal Crohn's disease and outperforms other laboratory tests. In future, following validation, we will derive clinical useful MRI and FC cut-offs that predicate on important patient outcomes.

Disclosure of Interest None Declared.

PTU-082 PAEDIATRIC INFLAMMATORY BOWEL DISEASE UNCLASSIFIED IN SCOTLAND: INCIDENCE AND NATURAL HISTORY

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Introduction Inflammatory Bowel Disease Unclassified (IBDU) accounts for ~10% of paediatric IBD (PIBD). The natural history of IBDU includes potential evolution to Crohn's disease (CD) or ulcerative colitis (UC). Few epidemiologically robust studies of IBDU exist so we aimed to describe the incidence and the natural history of paediatric IBDU in a population-based cohort.

Methods Incidence of IBDU was collected over a 10-year period (01/03–12/12) from the two largest Scottish paediatric gastroenterology networks (serving 74.4% of Scottish population <16 years). Demographics, diagnostic investigation and follow-up data were obtained until study end (31.10.13; unless prior transition or emigration) to ascertain reclassification of IBD subtype, clinical progress and outcome at last follow up. Incidence rates

and trends were calculated using publicly available population data and statistics generated using Poisson regression.

Results 65 patients were IBDU (57% male) at diagnosis with a median age of 11.3yrs (range 2.6–15.9). The age adjusted incidence of IBDU was 0.65/100,000/yr (95% CI 0.42–0.97) in the 5-year epoch 2003–2007 and 1.14/100,000/yr (95% CI 0.81–1.56) for 2008–2012, a non-significant increase ($p = 0.068$).

All patients had colonoscopy (74% ileal intubation), 62 (95%) had an upper GI endoscopy; remaining 3 had small bowel imaging. 61 (94%) had radiological imaging, 44 (68%) had a barium meal and follow through with 15 (23%) having MR enterography. At diagnosis, 53 (82%) had a pancolitis, 4 (6%) had disease distal to the hepatic flexure, 5 (8%) had disease distal to the splenic flexure and 3 (4%) had proctitis. 37 (57%) had mild disease (defined as mild infrequent relapses) while 7 (11%) had severe chronically active disease with 5 (8%) requiring Infliximab. Median follow-up was 3.1 yrs (range 0.4–6.8). 16 (25%) had their diagnosis changed (all after endoscopic re-evaluation) after a median of 1.6yrs (range 0.6–5.7), to CD in 11 and UC in 5; 10 (15%) remained IBDU. 3 (4%) required surgery and had colectomy and end ileostomy, 2 (66%) had diagnosis changed to UC prior to surgery whilst the other remained IBDU and reclassified to CD later.

Conclusion In the first ever UK population-based epidemiological study of IBDU, the incidence of IBDU demonstrated a non-significant trend to rise during the 10 year study period. 25% of patients had their diagnosis changed after endoscopic re-evaluation, more than previously reported by systematic review (Prenzel and Uhlig JCC 2009) after median follow up of 1.6 years. Most cases had inactive/mild disease activity; a minority remained IBDU despite re-assessment.

Disclosure of Interest None Declared.

PTU-083 USE OF POLYMERASE CHAIN REACTION TO DETECT MUCOSAL CYTOMEGALOVIRUS INFECTION IN PATIENTS WITH ACUTE ULCERATIVE COLITIS

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Introduction Mucosal CMV infection may complicate acute ulcerative colitis (UC), though the significance remains uncertain. The European Crohn's and Colitis Organisation recommend tissue PCR or immunohistochemistry for CMV detection. The aim of this study was to review experience of assessing patients attending a single unit with acute UC for CMV infection.

Methods A policy of biopsy for CMV infection was adopted for people with acute severe UC admitted to hospital (n = 37) or deteriorating symptoms as an out-patient (n = 8) from 2011–2013. Clinical severity was measured by Mayo score and endoscopic activity by Baron score. Biopsies were assessed for CMV viral DNA by realtime PCR. Serum IgG and IgM antibodies to CMV were measured by chemiluminescence.

Results Biopsies were obtained from 45 patients with UC. 13/45 (28.9%) were positive for CMV DNA (median titre 34900; range 776–1540000 copies/ml). 9/13 (69.2%) CMV PCR positive (+) patients were steroid refractory compared to 14/32 (43.8%) CMV PCR negative (-) $p = 0.12$. Median Day 3 Mayo scores were 8 for the CMV+ group and 6 for the CMV- group ($p = 0.59$). Of IPs biopsied up to Day 1 of IV steroids (range -4–1), 6/22 were CMV