

Reasons for AZA/MP discontinuation were intolerance to therapy (38%), and failure of therapy (62%) despite dose optimisation.

Steroid-free remission was achieved in 11 patients (52%), and this appears sustained at 12 months follow-up. A further 4 patients (19%) report improved symptoms with MTX, but remain dependent on low-dose steroids (although it is noted that 1 of these patients has co-existent rheumatoid arthritis which may explain this). MTX was discontinued in 4 patients (19%) because of a lack of clinical response (n = 1), side-effects (n = 2) or planned pregnancy (n = 1). Side-effects reported with MTX were liver toxicity and skin rashes. A final 2 patients (10%) have shown promising results with MTX but are not yet eligible for 12-month follow-up. Of the 21 patients included, 20 remain on oral therapy, and one has switched to parenteral MTX. Of note, none of the MTX patients have progressed to colectomy, in contrast to previous studies.

Conclusion Our study has shown good efficacy with MTX, with approximately half of UC patients achieving steroid-free clinical remission at 12 months. In contrast to previous studies, our experience suggests it is a useful treatment option in patients previously failing or intolerant of optimised thiopurine therapy.

Disclosure of Interest None Declared.

PTU-072 OUTCOMES OF THE USE OF INFLIXIMAB AND ADALIMUMAB IN PATIENTS WITH CROHN'S DISEASE AT A DISTRICT GENERAL HOSPITAL

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Introduction Infliximab (IFX) and adalimumab (ADA) are licensed for the treatment of severe Crohn's disease (CD). NICE recommends patients should receive these agents as a planned course of treatment for 12 months or until treatment failure. Patients should have their disease reassessed to determine if they have active disease and whether ongoing therapy is appropriate. We assessed our adherence to the NICE recommendations and present our outcomes for patients who had treatment discontinued following remission.

Methods Patients who had received treatment with IFX and/or ADA from Jan 2011 to Sep 2013 were identified from a database held by our pharmacy. Data was collected from patient case notes and a database of clinic letters. A total of 49 patients were identified. Cases were assessed for adherence to NICE recommendations.

Results 24 patients had been on IFX only (49%), 14 patients on ADA only (28.6%) and 11 started on IFX then switched to ADA (22.4%). 8 patients had evidence of fistulating disease. Mean age was 39 years (range 17–60). All patients (100%) had severe active CD that did not respond to conventional therapy (79.6%) or were intolerant or had contraindications (20.4%) to therapy. All patients (100%) were reassessed to determine whether ongoing treatment was still clinically appropriate. All patients (100%) were treated and reviewed by clinicians with experience in their use. Discussion regarding risks and benefits of continued treatment occurred in 77.8% of cases. 39 patients (79.6%) had been on treatment for greater than 1 year. Of these, 20 patients had treatment discontinued (51.3%); 3 were due to a reaction/intolerance, 10 were due to treatment failure, and 7 due to deep clinical remission (17.9%). 2 patients (28.6%) had disease

recurrence following treatment withdrawal due to remission. Mean time to relapse following withdrawal was 9 months (range 3–15). Of all patients found to be in deep clinical remission (n = 12, 30.8%) after 12 months of treatment, 6 patients had treatment continued partly due to patient choice (66.7%). Patients who continue treatment all had their disease reassessed at least every 12 months.

Conclusion There is good adherence to NICE guidelines in our cohort, however despite evidence of deep clinical remission some patients declined to have treatment discontinued partly due to anxiety of relapse. Our relapse rate following withdrawal of biological treatment appears lower than that found in the literature.

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PTU-073 COMPARISON OF SICUS VERSUS MR-ENTEROGRAPHY IN PATIENTS WITH CROHN'S DISEASE

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Introduction Small intestinal contrast-enhanced ultrasonography (SICUS) is an emerging radiological technique for the imaging of patients with Crohn's disease that avoids exposure to diagnostic medical radiation. We have previously demonstrated that SICUS is diagnostically comparable to small bowel barium follow through and computerised tomography in the diagnosis of Crohn's.¹ MR enterography (MRE) is becoming the gold standard radiological technique for the diagnosis of complications in patients with Crohn's, but is expensive and access is limited. We aimed to compare the diagnostic sensitivity of SICUS with MRE in routine clinical practice.

Methods Patients with established Crohn's disease, who had undergone both SICUS and MRE within 6 months of each other were identified retrospectively from the radiology database at a UK tertiary centre. Imaging and reports were reviewed for both modalities. Kappa coefficient data was calculated for luminal parameters including the presence of strictures, stricture number and location, the presence of abscess/fistulae, mucosal thickening, active mucosal inflammation and fibrotic changes. Reported stricture lengths were compared using paired student's *t*-test. Inflammatory markers including platelet levels, where available, were recorded within 2 weeks of each of the imaging modalities as a surrogate marker for active inflammation.

Results 20 Crohn's patients were identified (10 male), with a mean age of 30.1 years at time of first investigation. Mean time between modalities was 72.3 days (range 2–147). There was no significant difference between mean platelet counts between the 2 radiological tests. Agreement between the 2 modalities was excellent for the presence of stricturing disease (k=0.92, 95% CI 0.71–1.00), stricture number (k=0.91, 95% CI 0.73–1.00) and stricture location (k=0.91, 95% CI 0.71–1.00). Agreement was good for the presence of fistulae (k=0.74, 95% CI 0.40–1.00) and mucosal thickening (k=0.74, 95% CI 0.40–1.00).

Agreement was moderate for the presence of abscess ($k=0.46$ 95% CI 0.14–1.00), acute mucosal inflammatory changes ($k=0.55$, 95% CI 0.19–0.90) and fibrotic changes ($k=0.50$, 95% CI 0.04–0.95). There was no significant difference in the mean estimated stricture length between MRE and SICUS.

Conclusion SICUS compares favourably with MRE in the diagnosis of complications in patients with Crohn's disease. This imaging technique is particularly useful in patients with stricturing (Montreal B2) disease. SICUS is a useful alternative diagnostic technique to MRE, particularly when access to MR may be limited or is poorly tolerated by the patient.

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Disclosure of Interest None Declared.

PTU-074 ULCERATIVE COLITIS: THE ALPHA-E-BETA-7 INTEGRIN IS ASSOCIATED WITH A HIGH FREQUENCY OF TH17, TH1 AND TH17/TH1 CD4 LYMPHOCYTES

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Introduction T lymphocytes expressing the $\alpha\text{E}\beta 7$ integrin are highly enriched within human intestinal epithelium and lamina propria. Studies exploring pathogenic or protective functions of $\alpha\text{E}\beta 7$ expressing cells are lacking. Defining this phenotype is critical for our understanding of IBD pathogenesis and of translational importance with the development of etrolizumab, a humanised antibody specific to the $\beta 7$ integrin that blocks $\alpha 4\beta 7$: MAdCAM-1 and $\alpha\text{E}\beta 7$:E-cadherin interactions.

Methods Lymphocytes within colonic biopsies from a total of 43 UC and 35 non-disease control patients were studied. Multi-colour FACS was optimised to determine surface and intracellular protein expression (CD45, CD3, CD4, CD8, αE , $\beta 7$, CD161, IL-17A, TNF α , IFN γ and IL-10). qPCR was performed on TCR $\alpha\beta$ + lymphocytes, FACS sorted into CD4⁺ $\alpha\text{E}\beta 7$ +, CD4⁺ $\alpha\text{E}\beta 7$ -, CD8⁺ $\alpha\text{E}\beta 7$ + and CD8⁺ $\alpha\text{E}\beta 7$ - prior to gene expression assay. Dual stain IHC for αE , plus CD3, CD4, CD8 and FOXP3 was performed using a Ventana Benchmark XT autostainer. Severity of UC was stratified using the Mayo endoscopic score for ulcerative colitis.

Results Ulcerative colitis was associated with a significantly increased frequency of T lymphocytes in the intestinal mucosa ($p < 0.05$). IHC revealed the highest expression of αE on CD4 and CD8 intraepithelial lymphocytes, although a substantial number of lamina propria lymphocytes also expressed this integrin. In UC, FACS demonstrated CD4⁺ $\alpha\text{E}\beta 7$ + lymphocytes had a higher potential to produce the pro-inflammatory cytokines IFN γ ($p < 0.01$), TNF α ($p < 0.001$) and IL-17A ($p < 0.0001$) than CD4⁺ $\alpha\text{E}\beta 7$ - lymphocytes. In addition, a mean of 31.5% of the CD4⁺ $\alpha\text{E}\beta 7$ + lymphocytes produced both IL-17A and IFN γ compared to a mean of only 7.7% in the CD4⁺ $\alpha\text{E}\beta 7$ - compartment ($p < 0.001$). IL-10 was not differentially expressed between CD4⁺ $\alpha\text{E}\beta 7$ + and CD4⁺ $\alpha\text{E}\beta 7$ - lymphocytes in controls or UC, and a low frequency of $\alpha\text{E}\beta 7$ +FOXP3+ cells was observed by IHC. qPCR array confirmed higher mRNA levels of

IFN γ ($p < 0.001$), TNF α ($p < 0.01$) and IL-17A ($p < 0.01$), and lower transcription of FOXP3 ($p < 0.0001$) in CD4⁺ $\alpha\text{E}\beta 7$ + cells compared to CD4⁺ $\alpha\text{E}\beta 7$ - cells.

Conclusion $\alpha\text{E}\beta 7$ expression was associated with an enrichment of pro-inflammatory Th17, Th1 and Th17/Th1 T lymphocytes, and not associated with a regulatory phenotype. These data suggest therapeutic interventions targeting αE expressing T cells and the $\alpha\text{E}\beta 7$ integrin itself may be viable approaches for reducing aberrant inflammatory responses in UC.

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PTU-075 SYSTEMATIC REVIEW AND META-ANALYSIS: SENSITIVITY AND SPECIFICITY OF Tc-99m HMPAO LABELLED WHITE CELL SCINTIGRAPHY IN THE DIAGNOSIS OF ACTIVE INFLAMMATORY BOWEL DISEASE

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Introduction Technetium-99m hexamethylpropylene amine oxime (Tc-99m HMPAO) labelled white cell scintigraphy (WCS) is frequently used in the assessment of patients suspected of having active inflammatory bowel disease (IBD). However, no previous systematic review and meta-analysis has assessed the sensitivity, specificity, and positive and negative predictive values of this investigation in comparison with colonoscopy and histology. We therefore aim to present these data here.

Methods The MEDLINE and EMBASE databases were searched to January 2014. Prospective and retrospective cross-sectional studies recruiting adults suspected of a new diagnosis or flare of IBD, and comparing Tc-99m HMPAO labelled WCS with colonoscopy and histology, were eligible. True positive, false positive, true negative and false negative findings were pooled. A random effects model was used to obtain overall data for sensitivity, specificity, and positive and negative predictive values with a 95% confidence interval (CI).

Results We identified 15 eligible studies reporting data from 635 patients (174 Crohn's disease, 164 ulcerative colitis, 136 non-IBD). In total 1300 bowel segments were examined with 698 true positives, 41 false positives, 461 true negatives and 100 false negatives. Sensitivity was 0.90 (95% CI 0.85 to 0.95), specificity was 0.91 (95% CI 0.87 to 0.94), positive predictive value was 0.95 (95% CI 0.92 to 0.97) and negative predictive value was 0.83 (0.76 to 0.89).

Conclusion Tc-99m HMPAO labelled WCS is a sensitive and specific test for the diagnosis of active inflammatory bowel disease. Physicians may therefore find this a useful test for those in whom colonoscopy and histology are impractical or contraindicated.

Disclosure of Interest None Declared.