the patients with UC and 22.8% with CD were in remission. No significant HRQoL differences were found between UC and CD patients. But, there was a tendency of the CD patients to have higher IBDQ scores and better emotional functioning. ANOVA analysis identified disease activity and symptom's to explain variations in HRQoL. No significant impact found for sex, educational level, employment and marital status. In contrast, young age (20–40 years) in the CD group had negative impact on their social functioning.

Conclusion HRQoL did not differ significantly between patients with CD and UC But, there was a tendency of the CD patients to score higher in the IBDQ compared to the UC group which can be justified by the beneficial effect of biologic agents in the management of CD. Young age in CD patients had negative impact on their social functioning which indicates the need for developing supportive networks similar to those of Northern Europe in the South. Finally, disease activity and symptom's severity were the only factors that affect HRQoL in our population.

Competing interests None declared.

REFERENCES

1. **Bernklev**, *et al*. Course of disease, drug treatment and HRQoL in patients with inflammatory bowel disease 5 years after initial diagnosis. *Eur J Gastroenterol Hepatol* 2005;**17**:1037–45.
2. **Rubin GP**, *et al*. Quality of life in patients with established IBD: A UK general practice survey. *Aliment Pharmacol Ther* 2004;**19**:529–53.
3. **Canavan C**, Abrams KR, Hawthorne B, *et al*. Long-term prognosis in Crohn's disease: factors that affect quality of life. *Aliment Pharmacol Ther* 2006;**23**:377–85.

PTU-100 DEVELOPING SWANSEA INFLAMMATORY BOWEL DISEASE CLINICAL SEVERITY INDEX (SICSI)

doi:10.1136/gutjnl-2012-302514c.100

L Alrubaiy,* J Williams, H Hutchings. *Swansea University, Swansea, UK*

Introduction To assess IBD activity, many severity scales have been developed. Yet, most of them were not properly validated and did not go through robust methodology. Using different scoring systems makes it difficult to compare different trials especially when the end points are different. Because new therapies for IBD are rapidly emerging, there is a need to optimise and standardise methodology for assessing of disease activity in clinical trials. With the nationwide initiative to establish an IBD registry, a valid and easy to use activity measurement tool is needed. We believe that having a single disease activity index that is suitable for all types and presentations of IBD will make it very useful to monitor patients and assess their response to treatment.

Methods Literature search was conducted using MEDLINE and Google scholar database from January 1947 to 2011 to identify the clinical severity indeces commonly used in clinical trails. Seventeen indeces were identified for both Ulcerative coltis and Crohn's disease. We followed a clini-metric approach to develop the simple IBD clinical severity index. Common items between Ulcerative coltis and Crohn's disease were chosen. Few items were added to cover disease specific domains. The new index was examined by gastroenterologists and methodologists in Swansea University to ensure good face and content validity. The index was tested on 50 patients with different presentations of inflammatory bowel disease. Harvey Bradshaw index and Simple clinical colitis index were used for construct validity. Responsivness was checked by repeating the test within 2-week period.

Results The new index, simple IBD clinical severity index, showed good face and content validity. It covers all presentations of IBD including Crohn's disease, ulcerative coltis and perianal disease. It has good reliability and construct validity. It is easy to use in daily practice.

Conclusion Simple IBD clinical severity index is a new tool to assess the clinical activity of IBD. It is valid, reliable, user friendly and non-invasive index. Further studies are required to check how it performs on a wider range of patients.

Competing interests None declared.

PTU-101 DRUGS USED IN THE TREATMENT OF FISTULAE IN CROHN'S DISEASE PRESERVE MESENCHYMAL STEM CELL SURVIVAL

doi:10.1136/gutjnl-2012-302514c.101

[1]L Meran,* [2]H Rashidi, [3]R Jones, [2]F Rose, [2]K Shakesheff, [1]C Hawkey. *[1]Nottingham Digestive Diseases Centre, Nottingham University Hospitals, Nottingham, UK; [2]Tissue Engineering, STEM group, Centre for Biomolecular Sciences, Nottingham, UK; [3]Department of Immunology, Nottingham University Hospitals, Nottingham, UK*

Introduction Mesenchymal stem cells (MSCs) may enhance tissue healing in fistulae of Crohn's disease, owing to their multilineage differentiation and immunosuppressive capacity. They are currently under investigation in clinical trials in patients with fistulae, whether cryptoglandular in origin or associated with Crohn's disease. Little is known about the interaction of MSCs with drugs used in the treatment of fistulae in Crohn's disease. We demonstrate here that on daily exposure to antibiotics commonly used in the management of fistulae (ciprofloxacin and metronidazole), as well as anti-TNFα (infliximab), mesenchymal stem cell retain their proliferation and differentiation capacity.

Methods Cultured human bone marrow derived MSCs were plated at a density of 5×10^4 cells per square centimeter in 24 well plates and allowed to adhere overnight. Cells were exposed to a range of daily doses of ciprofloxacin, metronidazole (0.1 μg/ml–30 μg/ml) and infliximab (1 μg/ml–500 μg/ml) for a 6-week period. MSC morphology was assessed daily and differentiation capacity into adipocyte, osteocyte and chondrocyte lineages was studied after exposure to the drugs. MSC survival was assessed at 6 weeks using Annexin-V Apodetect assay followed by FACS analysis. Cell survival was expressed as percentages of cells that were negative for Annexin-V and propidium iodide staining. Analyses were performed using the SPSS statistical package (V. 19.0).

Results MSCs exposed to a range of concentrations of ciprofloxacin, metronidazole and infliximab daily, consistently displayed a normal morphology as assessed by light microscopy. Following exposure of these drugs, differentiation into adipocyte, osteocyte and chondrocyte lineages was conserved. In the absence of drugs, mean survival (±SD) of MSCs was 81.8 ±8.6%. In the presence of ciprofloxacin, mean survival of MSCs was generally increased compared to control cells, significantly so at the highest concentration of 30 μg/ml: 90.1% ($p<0.05$). By contrast, with metronidazole and infliximab there was no suggestion of a change in survival level, when compared to control cells at any of the concentrations used.

Conclusion This study demonstrates that, in vitro, morphological characteristics as well as the proliferation and differentiation capacity of MSCs is preserved in the presence of ciprofloxacin, metronidazole and infliximab. These findings are important in the consideration of the combination of MSCs with antibiotics and anti-TNFα therapy and will inform subsequent studies to optimise drug and cell delivery.

Competing interests None declared.

PTU-102 RE-TREATMENT WITH INFLIXIMAB AFTER A PROLONGED DRUG HOLIDAY IN PATIENTS WITH CROHN'S DISEASE

doi:10.1136/gutjnl-2012-302514c.102

L Lee,* J Duncan, M Sastrillo, J Sanderson, P Irving. *Department of Gastroenterology, Guy's and St Thomas' NHS Foundation Trust, London, UK*

Introduction Infliximab (IFX) is a chimeric monoclonal antibody effective for inducing and maintaining remission in Crohn's disease.

The safety and efficacy of retreatment with IFX after a short "drug holiday" was recently demonstrated in the STORI trial. However, data regarding re-treatment after a long drug holiday (>1 year) are few. With increased use of biologics, the number of patients who have lost response to both biologics is increasing. These patients have limited therapeutic options but retreatment with IFX has been proposed.

Methods We performed a retrospective review of patients with Crohn's disease who had been re-treated with IFX after a period off treatment of at least 1 year. Patients were identified from our biologics database and their records were reviewed. Patient details and clinical outcome measures were extracted into a standardised form.

Results 24 patients (14 male) were studied with a median age of 38 years (range: 21–61 years). 15 patients had responded to their first course of treatment; IFX was stopped due to episodic treatment being the norm at that time (n=9), patient choice (n=3), failure to re-attend for planned treatment (n=1) and development of strictures requiring surgery (n=2). The median time between stopping IFX and retreatment was 35 months (range 14–102). In this cohort, 80% responded to retreatment (12/15), 2 developed infusion reactions and 1 developed secondary loss of response. Median follow-up among continued responders was 20 months (range 2–43). Nine patients stopped their first course of IFX for either primary non-response (n=5), secondary loss of response (n=2) or infusion reaction (n=2). The median time between treatments was 32 months (range 18–42). In this cohort, 78% of patients responded to retreatment (7/9); 2 had infusion reactions. Follow-up among ongoing responders was for a median of 11 months (range: 2–84 months). All infusion reactions occurred on the second retreatment dose despite premedication with hydrocortisone (200 mg iv).

Conclusion Re-treatment with IFX after a drug holiday of at least 1 year was frequently successful, whether the patients had initially responded to IFX or not. The main limiting factor was the development of infusion reactions. We conclude that retreatment with IFX is a viable option in people with limited therapeutic options even if they failed to respond to their first course of treatment or have previously lost response.

Abstract PTU-102 Table 1

Disease duration (y) (median (range))	36 (21–59)
Age at diagnosis	22 (11–50)
% Ileal disease	4% (1/24)
% Ileocolonic	25% (6/24)
% Colonic disease	71% (17/24)
% B1 (non-stricturing/penetrating)	21% (5/24)
% B2 (stricturing)	38% (9/24)
% B3 (penetrating)	42% (10/24)
% p (perianal)	38% (9/24)
Concurrent immunosuppressants	63% (15/24)

Competing interests None declared.

PTU-103 ANTI-INFLIXIMAB ANTIBODIES: PREVALENCE, INFUSION REACTIONS, IMMUNOSUPPRESSION AND RESPONSE, A META-ANALYSIS

doi:10.1136/gutjnl-2012-302514c.103

L Y Lee,* J Sanderson, P Irving. *Department of Gastroenterology, Guy's and St Thomas' NHS Foundation Trust, London, UK*

Introduction Infliximab is a chimeric monoclonal antibody directed against tumour necrosis factor α. When used in inflammatory bowel disease (IBD), primary non-response is seen in at least 10% of patients with secondary loss of response occurring in a further 10%–15% per year. It has been suggested that this may in part be a result of the development of anti-infliximab antibodies (ATIs). The prevalence of ATIs varies according to the frequency of administration of infliximab and the use of immunosuppressants. ATIs have also been linked with infusion and hypersensitivity reactions. We aimed to perform a meta-analysis of the prevalence of ATIs in people with IBD receiving infliximab, the effect of immunosuppressive drugs on prevalence of ATIs and the effects of ATIs on infusion reactions and remission rates.

Methods MEDLINE and EMBASE databases were systematically searched from 1948 and 1980 respectively to October 2011. Inclusion criteria included randomised controlled trials, cohort studies or case series reporting on anti-infliximab antibodies in adult or juvenile IBD. Data from eligible studies were extracted into a standardised form and a meta-analysis performed.

Results 18 studies involving 3326 patients were included. The prevalence of ATIs was 45.8% when episodic infusions of infliximab were given and 12.4% when maintenance infliximab was given. Rates of infusion reactions were significantly higher in patients with ATIs (RR: 2.07, 95% CI 1.61 to 2.67). Immunosuppressants resulted in a 50% risk reduction in prevalence of ATIs. The prevalence of ATIs was 17.5% in patients using immunosuppressants and 37.7% in those who were not (RR: 0.50, 95% CI 0.42 to 0.59). However, the presence or absence of ATIs did not significantly affect rates of clinical remission, which was 46.5% in patients with ATIs and 60.2% in those without (p=0.10).

Conclusion The prevalence of ATIs depends on the regimen of infliximab administration and the use of immunosuppressants. Patients who develop ATIs are at increased risk of infusion reactions, but the presence of ATIs does not, by itself, have an effect on rates of clinical remission.

Abstract PTU-103 Table 1

	Number of ATIs	95% CI	RR
Episodic Infliximab	95/128 (74.2%)	0.66 to 0.81	
Episodic Infliximab + immunosuppression	77/171 (45.0%)	0.38 to 0.53	0.60
Maintenance Infliximab	148/423 (35.0%)	0.31 to 0.40	
Maintenance Infliximab + immunosuppression	32/315 (10.2%)	0.07 to 0.14	0.31

Competing interests None declared.

PTU-104 THIOGUANINE NUCLEOTIDES: OPTIMISING THIOPURINE THERAPY IN INFLAMMATORY BOWEL DISEASE (A DGH PERSPECTIVE)

doi:10.1136/gutjnl-2012-302514c.104

L Pee,* A Gera, T Bedwell, V Saxena, H Curtis, A Loganayagam. *Gastroenterology, South London Healthcare NHS Trust, London, UK*

Introduction Azathioprine (AZA) and 6-mercaptopurine (6MP) have been used in treatment of inflammatory bowel disease since introduction in the 1960s.[1] 6-thioguanine nucleotides (TGN) levels are related to therapeutic response with likely minimum threshold value of 235–250 pmol/8×10^8 RBC.[2–5 8] Thiopurine metabolism is affected by thiopurine methyltransferase (TPMT) and its activity is therefore important. Methylated derivatives like 6 methyl mercaptopurine[6 7] (MMP) are possibly partially responsible for hepatotoxic effects and maximum threshold value has been established at 5700 pmol/$^{8\times}10^8$ RBC in a paediatric IBD population.[2]