over 48 hours increased the epithelial cell proliferation rate by up to 56% in Caco-2 ($p < 0.01$) and 42% in HT-29 ($p < 0.001$) cells.

Conclusion Our data demonstrates that IL-27 enhances epithelial barrier wound healing. Gene expression data suggests that cell-cell adhesion is enhanced through increased E-cadherin expression, with a reduction in permeability through decreased expression of claudin-2 (pore forming) and increase in claudin-4 (pore closing). Tight junction function is enhanced through increased expression of occludin and tight junctional protein-1. Further studies will define the IL-27 driven permeability related protein expression profile and impact on functional permeability in organoids and whether IL-27 is a potential new treatment for IBD.

PWE-011 THE PSYCHOSOCIAL EFFECTS OF INFLAMMATORY BOWEL DISEASE ON REPRODUCTIVE HEALTH – A SYSTEMATIC LITERATURE REVIEW

¹Satvinder Purewal*, ²Wladyslaw Czubor-Dochan, ³Sarah Chapman, ⁴Christian Selinger, ⁵Helen Steed, ⁶Matthew Brookes*. ¹University of Wolverhampton, Wolverhampton, UK; ²King's College London, London, UK; ³University of Bath, Bath, UK; ⁴Leeds Teaching Hospitals Trust, Leeds, UK; ⁵Royal Wolverhampton Nhs Trust, Wolverhampton, UK

10.1136/gutjnl-2018-BSGAbstracts.143

Introduction Inflammatory bowel disease (IBD) is a chronic condition that can affect patients during their reproductive years. Previous studies report that IBD patients have high levels of pregnancy-related fears and voluntary childlessness. The aim of this project is to perform a literature review on the psychosocial effects of IBD on patient's reproductive health and investigate factors affecting family planning decisions.

Method Six electronic databases (CINAHL, PsycInfo, EMBASE, Pubmed, Web of Science, Sciondirect) were searched using a broad search strategy. Studies using qualitative, quantitative and mixed methods designs were eligible.

Results Using Prisma-P, a total of 3600 records were identified through electronic databases, hand searching and contacting authors. After removing duplicates, 1806 titles were screened and 241 abstracts were reviewed. Of these, 79 full text articles were screened and 41 articles have been included. The studies design included cross-sectional surveys, qualitative, mixed methods and non-randomised controlled intervention studies. Synthesis of the data revealed that sexual dysfunction after surgery, specifically ileal pouch–anal anastomosis, is common for female patients. A small minority of female IBD patients do not use contraception and are at 'risk' for pregnancy. Knowledge regarding the effects of IBD on pregnancy and fertility is consistently poor and poor knowledge is associated with voluntary childlessness. Many patients report pregnancy-related fears and anxieties including concerns that IBD or medications may harm the baby or lead to a complicated pregnancy. Patients feared transmission of IBD to their offspring, which may lead to voluntary childlessness. Strategies to improve pregnancy and fertility knowledge (e.g., pre-conception counselling) are successful in reducing pregnancy-related anxieties. However, provisions of pre-conception counselling tend to be limited. The literature in this field is associated with a number of limitations including (a) small sample sizes; (b) low response rate for surveys; (c) the use of unstandardised and non-validated questionnaires; (d) few studies have

included male samples and ethnic minority groups; and (e) lack of qualitative enquiry and longitudinal follow-up of patients.

Conclusion The literature indicates that some patients with IBD experience sexual dysfunction, poor fertility and pregnancy-related knowledge, high levels of pregnancy-related fears, concerns and voluntary childlessness. Intervention to improve knowledge tends to be successful. This review has identified several psychosocial effects of IBD on reproductive health which need further investigation.

PWE-012 SMALL BOWEL ULTRASOUND IN CROHN'S DISEASE-OUTCOMES IN A DISTRICT GENERAL HOSPITAL

Robert Perry*, Chia Sin Chey, Hein Htet, Fern Chilcott, Beverley Kirkham, Sarah Langlands, Gaurang Bhatnagar, Jian Wu. *Frimley Health NHS Foundation Trust, Camberley, UK*

10.1136/gutjnl-2018-BSGAbstracts.144

Introduction The joint ECCO and ESGAR evidence-based consensus guidelines for imaging techniques for inflammatory bowel disease IBD assessment recommends ultrasound (US) as one of the first-line tests for the investigation of Crohn's Disease (CD). It is inexpensive, free of ionising-radiation and well tolerated. We looked at outcomes in SB US in our CD population.

Methods Retrospective analysis of SB US for patients with known or suspected CD between June 2016 to February 2017 in Frimley Park Hospital. Data was collected from PACS, clinic letters and endoscopy reports.

Result 91 US scans in a total of 83 patients were performed by a single, dedicated GI radiologist (6 patients had more than one US). Patient age range 7–80 years (median 29 years); 53 female (64%), 30 male (36%).

21/91 (23%) US were performed for assessment of symptomatic flare in those with established CD. 16/21 (76%) had active disease on US (81% terminal ileitis; 6.3% stricture, 6.3% fistula, 6.3% abscess). Of these, 4 had MRE and 2 had colonoscopy which correlated with US findings. 11/16 (69%) had treatment escalation following US (55% started anti-TNF, 18% steroids, 9% Vedolizumab, 9% enteral, 9% surgery). US was the sole investigation prior to treatment escalation in 7 these patients (64%).

24/91 (26%) US were performed in established CD patients to aid treatment decisions; 4 after recent steroid course (all started disease modifying treatment), 8 to assess patients on biologics, 2 to evaluate starting biologics, 6 to evaluate previous abnormal/inconclusive CT/MRI or colonoscopy, 2 periprocedurally, 1 for discordant symptoms and imaging; 1 for abnormal biochemistry.

6 US were undertaken after failure of terminal ileum intubation for established CD. 4/6 (67%) detected terminal ileitis and treatment subsequently escalated (1 started methotrexate, 1 anti-TNF, 1 Vedolizumab, 1 prednisolone).

46/91 (51%) US were performed for suspected CD. 11/46 (24%) showed active inflammation. 8 were ultimately diagnosed with CD. In this group, 2 had MRE, 3 had colonoscopy and 3 had both, all correlating with US findings. 35/46 (76%) did not show active inflammation but reported incidental findings including malignancy and gallstones.

Conclusion This study demonstrates the useful role of SB US in the management of CD. Our results show that US led to changes in treatment including management of acute flares,

alterations in medical therapy and assessing response to treatment in our Crohn's cohort.

We recommend that SB US should be more widely utilised in such patients as it correlates well with gold standard investigation and is able to provide complementary information to aid decision-making.

PWE-013 FERACCRU® REAL WORLD EFFECTIVENESS STUDY IN HOSPITAL PRACTICE (FRESH): AN INTERIM ANALYSIS

¹Fraser Cummings*, ²Catherine Singfield, ²Lesley Jones, ³Joseph Hickey, ⁴Ian Beales, ⁵Aileen Fraser, ⁶Shaji Sebastian, ⁷Catherine Stansfield, ⁸Sami Hoque. ¹University Hospital Southampton NHS Foundation Trust, Southampton, UK; ²Shield Therapeutics, London, UK; ³pH Associates, Marlow, UK; ⁴Norfolk and Norwich University Hospitals NHS Foundation Trust, Norwich, UK; ⁵University Hospitals Bristol NHS Foundation Trust, Bristol, UK; ⁶Hull and East Yorkshire Hospitals NHS Trust, Hull, UK; ⁷Salford Royal NHS Foundation Trust, Salford, UK; ⁸Barts Health NHS Trust, London, UK

10.1136/gutjnl-2018-BSGAbstracts.145

Introduction Many patients with inflammatory bowel disease (IBD) experience iron deficiency anaemia (IDA), which can impact significantly on quality of life (QoL). Oral ferric maltol (Feraccru) is a novel iron complex licensed in the UK for the treatment of IDA in patients with IBD. The aim of this study is to understand the early experiences of Feraccru in patients with IBD and IDA in the UK, including treatment effectiveness, patterns of use and tolerability.

Methods FRESH is an ongoing observational cohort study conducted in 5 secondary care gastroenterology centres in the UK (up to 8 centres planned). Data were collected from hospital medical records for consenting adult patients (≥ 18 years) with Crohn's disease (CD), ulcerative colitis (UC) or unspecified IBD who were also diagnosed with mild or moderate IDA and initiated on Feraccru since June 2016. Patients with an IBD flare at time of study recruitment, and/or requiring corticosteroids to treat flares at time of Feraccru initiation were not eligible for the study. Interim data for the first 30 patients recruited to the study are presented.

Results The mean (SD) age of 30 patients at initiation of Feraccru was 42.2 (15.8) years and 37% (n=11) of patients were male. Of these patients, 50% (n=15) had CD, 43% (n=13) had UC and 7% (n=2) had IBD of unspecified type. The mean haemoglobin (Hb) level at initiation was 10.7 g/dL (standard deviation 12.1 g/dL).

At 12 weeks after initiation of Feraccru (permitting a measurement window from 10 to 16 weeks), 62% (n=8) of 13 patients with a measurement recorded had normalised Hb levels (defined as Hb ≥ 12.0 g/dL for females and ≥ 13.0 g/dL for males).

Out of 30 patients who received Feraccru, 10% (n=3) discontinued by week 4 (+1 week) and 23% (n=7) by week 12 (+4 weeks). No patients discontinued Feraccru due to lack of efficacy.

Conclusions The first results from a study of the use and outcomes of Feraccru in UK clinical practice show that in the small sample less than half of patients had a recorded Hb measurement at 12 weeks after initiation of Feraccru. Of those who did, 62% had normalised Hb. This is comparable

to results from the AEGIS phase III study where 66% patients achieved normalised Hb by 12 weeks.

PWE-014 THE IMPACT OF THERAPEUTIC DRUG MONITORING DURING BIOSIMILAR INFlixIMAB SWITCH IN INFLAMMATORY BOWEL DISEASE

¹Ravi Ranjan*, ²Sally Myers, ¹Linda Crissop, ¹Susan Ritchie, ¹Frances Maw, ²Shaji Sebastian, ¹Anjan Dhar. ¹County Durham and Darlington NHS Foundation Trust, Darlington, UK; ²Hull Royal Infirmary, Hull, UK

10.1136/gutjnl-2018-BSGAbstracts.146

Introduction Therapeutic Drug and antibody monitoring (TDM) is now an established strategy to manage patients with Inflammatory Bowel disease being treated with Biologic agents. Biosimilar switching of Originator Infliximab (IFX) is recommended by ECCO and BSG. The role of TDM during biosimilar infliximab switch is not well studied. This study aimed to analyse and compare IFX drug and antibody levels before and after switch.

Aims To study the impact of TDM on Biosimilar infliximab switching by detecting the proportion of patients who have sub-therapeutic drug levels and/or anti-IFX antibodies either before or 3 months after the switch, who would be considered as secondary loss of response (LOR).

Methods All patients with either Crohn's disease (CD) or Ulcerative Colitis (UC) who were switched to Remicade, a biosimilar Infliximab in 2017 at the two hospital sites were included. Disease activity was assessed using Harvey-Bradshaw Index (HBI) or Simple Clinical Colitis Activity Index (SCAI). The most recent colonoscopy/radiological imaging and faecal calprotectin (FCP) was recorded. Pre and post-switch Infliximab and antibody levels were obtained. Concomitant use of immunomodulators (Azathioprine, Mercaptopurine or Methotrexate) was noted.

Results 119 patients had IFX Remicade switch to Biosimilar Inflectra or Remicade. 86 pts had CD and 32 had UC. 110 patients had pre-switch therapeutic drug and antibody monitoring, and 115 had post switch monitoring as well within 3 months. 67 pts had sub-therapeutic but detectable IFX drug levels prior to the switch with either mild or inactive clinical scores for both CD and UC. 19 patients had undetectable IFX drug levels, and post switch continued to have undetectable levels. 16 of these 19 patients had high anti-IFX antibodies suggesting that these patients were secondary loss of response who needed a change of their biologic to another agent. 11/86 patients had dose escalation to 10 mg/kg and then attained therapeutic levels. SCAI ranged between 0–9, mean 1.433, and HBI ranged between 0–12, mean 2, indicating that majority of patients were in remission. Post switch matched FCP showed 60 pts in remission with FCP < 200 ug/g and 22 pts with FCP > 250 ug/g.

Conclusions Therapeutic drug and antibody monitoring before and 3 months after Biosimilar switch detects secondary loss of response in patients maintained on scheduled IFX treatment in clinical and biochemical remission. It should be recommended over blanket switching as it may prevent unnecessary switching for some patients who are no longer responding to the IFX or those who may merit a drug withdrawal.