has been proposed, reducing invasive and costly lower gastrointestinal (GI) endoscopy, particularly when functional disorders are suspected [1]. We reviewed all faecal calprotectin results and available patient records over a six month period to determine whether a normal faecal calprotectin resulted in subsequent avoidance of lower GI endoscopy.

Methods The paper and/or electronic medical records for patients with calprotectin requests over a 6 month period were accessed and reviewed by a Specialty Trainee in gastroenterology at Lancashire Teaching Hospitals NHS Foundation Trust. Demographic data, symptoms, and recent or subsequent lower GI endoscopy were recorded. Endoscopy was considered 'spared' if the diagnosis was anticipated to be functional and a normal faecal calprotectin resulted in avoidance of lower GI endoscopy; or in patients with known inflammatory bowel disease (IBD) where the notes intimated a normal calprotectin would result in avoidance of further endoscopy.

Results 122 patients (73 female, mean age 41yrs, range 16–89yrs) had faecal calprotectin requests sent from the Royal Preston Hospital and Chorley and South Ribble Hospital. 4 samples were not received or processed. 90.2% were outpatient requests, and the most common indications were loose stools (54.1%) and abdominal pain (28.7%). 45 samples (36.9%) had a raised calprotectin (≥51μg/g), of which 20 patients had known IBD. In those with a normal calprotectin (n = 73), 56 had an unclear diagnosis of which 4 (7.1%) eventually went on to have lower GI endoscopy with no major findings, and 20 patients (35.7%) had previously undergone lower GI endoscopy. In 13 patients there were insufficient records available to be able to comment. According to the criteria mentioned 35 patients were spared lower GI endoscopy within the 6 month period.

Conclusion Over a 6 month period 35 lower GI endoscopies were avoided representing both a reduction in patient exposure to the risks of endoscopy and a significant financial saving. Our results suggest that faecal calprotectin is a valuable and cost effective resource in helping to exclude significant organic pathology in selected patients given its proven high negative predictive value in excluding gastrointestinal inflammation [2].

Disclosure of Interest None Declared

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PTU-070 SELECTING THE MOST COST-EFFECTIVE MODEL OF CARE FOR DELIVERING BIOLOGICAL AGENTS AS MAINTENANCE THERAPY IN PATIENTS WITH CROHN'S DISEASE

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Introduction The introduction of anti-TNF alpha monoclonal antibodies in 1999 has revolutionised the management of inflammatory bowel disease (IBD). A significant increase in gross spend on biological agents in the management of Crohn's disease has occurred since the implementation of NICE guidance in 2002. The unplanned nature of the service expansion and evolution has led to a wide variation in service delivery. Within the Aneurin Bevan Local Health Board (ABHB) the approximate doubling in the gastroenterology spend on biologics (between 2010 and 2011) prompted a review of current services and an investigation of other potential models of care for delivering the service.

Methods A service evaluation for both adalimumab and infliximab (IFX) including: an assessment of the current services from a patient's perspective (study 1), identifying and exploring models of care for delivering the service (study 2) and evaluating the costs associated with each model of care (study 3) was undertaken. Study 1 comprised face-to-face semi-structured, tape recorded patient-interviews, which were transcribed verbatim and then thematically analysed. Study 2 utilised a number of methods to identify key-informants at various secondary care sites to participate in telephone semi-structured interviews, models identified were compared and contrasted. Study 3 identified and compared the costs of current models within ABHB with viable models identified in study 2.

Results The results revealed overall satisfaction with the IBD services within ABHB and with the service provided by Healthcare at Home Ltd. Patients were complementary of the IBD team and the telephone help line. Nonetheless areas for improvement with regards to the infusion facilities were identified by the IFX group. Study 3 identified four models of care: IFX prepared in pharmacy, IFX prepared by a specialist nurse, IFX at home and adalimumab at home. For standard dosing (79kg patient-average IFX patient weight at ABHB) annual costs were £12,237, £12,314, £10,254 and £9,156 respectively, inclusive of pharmacy production time, nursing time and active drug and exclusive of hospital facilities. Vial sharing would reduce the cost of models one and two, however would require complex re-organisation to facilitate "pairing" patients. Study 3 identified adalimumab via Healthcare at Home as being the most cost-effective model.

Conclusion Where clinically appropriate adalimumab via Healthcare at Home Ltd is recommended for this group of patients within ABHB, with IFX via a home care company as second line. Work should be done to improve the current infusion facilities. Future work should include reviewing the potential of setting up a biologics unit shared between specialities.

Disclosure of Interest None Declared

PTU-071 CAUSE OF DEATH IN THE EXETER INFLAMMATORY BOWEL DISEASE (IBD) POPULATION

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Introduction Recent meta-analyses of population based IBD mortality studies have shown no increase in standardised mortality ratio for ulcerative colitis (UC)[1], but a small increase for Crohn's disease (CD)[2]. 26–50% of deaths in CD patients were related to the underlying IBD diagnosis[2]. The aims of this study were to investigate the death cause distribution in a well defined IBD population and to establish the proportion of deaths related to the underlying diagnosis or treatment.

Methods Retrospective case note review to establish cause of death of all patients on the Exeter IBD database who died in the 9yr period until 31.12.2011. Cases were reviewed by 2 clinicians to establish cause of death and ascertain whether it was related to the underlying diagnosis or treatment.

Results 143 deaths, 82 male. 87 had UC, 46 CD and 10 IBD unclassified. Mean age at diagnosis was 58 (11 – 94). Mean duration of disease at time of death was 17 years (0–61). The median age of death was 72.5 and 79 years for CD and UC respectively ($P = 0.001$, 95% CI –13 - –3 years).

The underlying disease or treatment was implicated in the cause of death in 35/143 (23%) patients and was more common in CD compared to UC patients (37 vs. 18%, $P = 0.03$). There was no change over time in the proportion of related deaths.

13/143 (9%) had a diagnosis of colorectal cancer at the time of death; in 8 this was the primary cause of death. 8 had Primary Sclerosing Cholangitis, all of whom died of related complications. 8 patients had a haematological malignancy including 3 patients with colonic lymphomas, 1 with chronic myeloid leukaemia, 2 with non-Hodgkin's lymphoma and 1 with peripheral T cell lymphoma. Half of these patients had previously been prescribed thiopurines.

10 died during emergency admission for acute IBD. 3 had coexisting enteric infection. 2 died from perforations (gastric and ileal). 7 died of post-operative complications of IBD surgery (3 emergency cases, 4 elective).

94/143 (66%) died of conditions unrelated to IBD (including 23 cardiac, 21 respiratory causes). 38 (27%) died of cancer. A cause of death could not be established for 14 patients.

Conclusion CD patients died at a younger age compared with UC patients and were more likely to die from a complication of IBD or treatment. The proportion of IBD related deaths has not changed within the time period of this study.

Disclosure of Interest None Declared

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PTU-072 EVALUATION OF THE IMPACT OF DIFFERENT COMMERCIALLY AVAILABLE DNA EXTRACTION KITS AND LABORATORIES FOR ASSESSING BACTERIAL COMMUNITY STRUCTURE IN FAECAL SAMPLES – IMPLICATIONS FOR IBD RESEARCH

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Introduction Determining faecal sample bacterial community structure through sequence analysis of DNA has become a very important facet of inflammatory bowel disease (IBD) research. The possible impact of different commercially available DNA extraction kits and the influence of different lab environments on the data generated has however received relatively little attention. The study compared bacterial communities in faecal samples extracted using commercial DNA kits in established gastrointestinal research laboratories.

Methods Faecal samples from 2 healthy volunteers and 2 IBD patients with relapse were investigated. DNA extraction was undertaken using MoBio and Fastprep DNA extraction kits in two established labs. Two protocols were followed for processing samples using the Fastprep kit. Each DNA sample was then split and an aliquot transferred to the other lab. Pyrosequencing PCR of bacterial 16S rRNA genes was performed in both labs on all samples. Quantitative PCR analysis (q-PCR) to validate sequencing data was also performed. Hierarchical clustering was done using the Jaccard and Theta Yue & Clayton similarity coefficients on the pyrosequencing data.

Results DNA extracted using methods FastPrep1, FastPrep2 and the MoBio kit yielded median DNA concentrations of 476 (interquartile range 290–518), 453 (IQR 228–689) and 22 (IQR 9–36) ng/μL respectively. Those obtained with MoBio were significantly lower than FastPrep ($p < 0.0001$). Hierarchical clustering of sequence data revealed four clusters, with samples clustering by patient. Within each patient cluster, samples clustered by DNA extraction kit. Linear modelling of the effect of patient and kit on relative abundance of common bacterial classes revealed significant differences between MoBio and FastPrep. *Ruminococcaceae* and Bacteroidetes were significantly increased in MoBio extracted samples, while*Lachnospiraceae* and *Enterobacteriaceae* were significantly reduced ($p < 0.05$ in each case). Q-PCR revealed good correlation with sequencing data, with R^2 of 0.94, 0.82, 0.69 and 0.57 for *Enterobacteriaceae*, *Bacteroides*, *Ruminococcaceae* and *Lachnospiraceae* respectively.

Conclusion This study demonstrates significant differences in DNA yield and bacterial DNA composition seen when comparing DNA extracted from the same faecal sample with different extraction kits. This highlights the importance of ensuring that all samples to be analysed together are prepared with the same DNA extraction method, and the need for caution when comparing studies that have used different methods.

Disclosure of Interest None Declared

PTU-073 DOSE INTENSIFICATION WITH ANTI-TNF AGENTS IN INFLAMMATORY BOWEL DISEASE- A SECONDARY CARE EXPERIENCE

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Introduction The efficacy of anti-TNF therapy, Infliximab (IFX) and Adalimumab (ADA) has been established in pivotal trials for induction and maintenance of remission of inflammatory bowel disease (IBD). Despite this a proportion of patients lose response and require dose intensification. The aim of our study was to assess the efficacy and durability of dose intensification with IFX/ADA.

Methods A retrospective review of patients with IBD receiving IFX/ADA infusions from October 2011 until April 2012 at our institution was conducted through electronic and case note review, endoscopy, radiology and pathology reports. Patients losing response after 6 months or more of IFX/ADA maintenance therapy and in whom treatment was intensified were included. Dose intensification was defined as an increase in IFX dose per infusion from 5mg to 10mg/kg or increase in frequency of infusions from 8 weeks to 5 – 6 weeks. For ADA this was defined as increasing the dose from 40 mg to 80mg or increasing the frequency from biweekly to weekly.

A positive response was defined by clinician assessment after 3 infusions. Non-response or loss of response was defined as persistent disease related symptoms requiring steroid therapy, hospitalisation, surgery or discontinuation of IFX/ADA.

Results Of 208 patients receiving anti TNF therapy (IFX = 157, ADA = 51), 15 patients (12 female) received dose intensification (IFX = 12, ADA = 3). 6 had Ulcerative Colitis (UC) (4 pan-colonic, 2 left sided) and 9 had Crohn's Disease (CD) with non stricturing, non penetrating disease (3), active stricturing (3), penetrating (1) and peri-anal (2) disease respectively. Disease location was ileal (1), colonic (2) and ileo-colonic in 6. The median age was 40 years (range 18–72 yrs).

Response to intensification after approximately median duration of follow up of 12 months was noted in 8/9 CD and 2/6 UC patients. 9 patients (60%) remained on dose intensification and 5 lost response (33%). In 1 patient treatment was discontinued in the third trimester of pregnancy. Two patients (UC) reverted to their previous dose, 2 non-responders underwent surgery and 1 received Methotrexate. 2 patients are being evaluated for dose intensification. CRP was elevated in 5 patients prior to intensification. Endoscopic assessment of disease was performed in 4 patients with UC showing active colitis in 3. Four patients underwent enterography showing active disease in three.

Conclusion A significant proportion of patients with CD respond to dose intensification but thorough disease assessment does not always appear to precede such critical decision. Anti-TNF trough and antibody levels, an astute assessment for active disease and search for alternative mechanistic explanations for symptoms are imperative prior to embarking on expensive therapy with its inherent risks.

Disclosure of Interest None Declared