pH5 + 1mM $NaNO_2$ (high nitrosative stress), 1mM H_2O_2 pH7 (high oxidative stress) and 1mM methyl viologen (MV) pH7 (super oxidative stress). Plates were incubated overnight at 37°C.
Results All four CD AIEC showed tolerance to low pH, high nitrosative and oxidative stress mimicking the intra-phagolysosome environment. CD AIEC demonstrated greater tolerance to growth at pH5. Compared to growth seen on LB agar pH7 (100%), LF82 showed 99.3 ± 22.2% growth at pH5 [mean ±SD]. Likewise, growth of HM427 (104.4 ± 15.2%), HM605 (81.1 ± 15.5%) and HM615 (94.2 ± 9.4%) was also seen at pH5. Conversely,% growth seen for laboratory strains was only 64.2 ± 9.9% for XL-1 and 61.3 ± 8.7% for EPI300; N=4 expts, n = 3 replicates ($P < 0.01$; ANOVA). Most remarkable was tolerance on super oxidative LB agar containing 1mM MV, with LF82 showing growth at 95.9 ± 11.5%, HM427 81.3 ± 17.9%, HM615 102.4 ± 14.3% and HM605 86.1 ± 13.5% vs. that seen on standard LB agar (100%). Non-AIEC strains showed little tolerance to all stress conditions tested (in 1mM MV; XL-1, no growth; EPI300, 1.8 ± 1.2% growth vs. LB agar alone, 100%); ($P < 0.0001$). The four CD AIEC were also observed to grow better after 8h in a low nutrient M9 medium supplemented 0.1% casamino acids (pH4) than the laboratory *E. coli* tested and 3 additional *E.coli* isolates from healthy controls (ECOR1, ECOR35, ECOR51); N = 1, n = 3.
Conclusion Crohn's AIEC, unlike non-AIEC *E. coli*, tolerate low nutrient, low pH and high chemical stress conditions that mimic the macrophage phagolysosome environment.

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PTU-063 A PROSPECTIVE AUDIT OF THE USE OF TACROLIMUS IN PATIENTS WITH REFRACTORY SUBACUTE ULCERATIVE COLITIS IN A DISTRICT GENERAL HOSPITAL

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Introduction Tacrolimus appears to be effective short-term treatment for patients with refractory ulcerative colitis (UC)[1] and is recommended by NICE[2] in suitable patients. We report our experience in a district general hospital out-patient setting of tacrolimus in patients with steroid refractory subacute UC whom either failed, or were intolerant to thiopurines and as an alternate to surgery. In England, Wales and Northern Ireland infliximab may no longer be used to treat patients with sub-acute UC.[3]
Methods A prospective quality and safely assurance audit was undertaken of all patients with UC treated with tacrolimus from January 2010 until January 2014. Patients not responding to or intolerant of conventional therapy met with the consultant gastroenterologist (AWH). They were offered treatment with tacrolimus, provided with written drug information or referral for surgical management. All agreed to start treatment with tacrolimus (Prograf) 0.1 mg/kg/day in 2 divided doses and were monitored according to local protocol with FBC, UandEs and serum trough levels at weeks 2, 4 and 3 monthly thereafter. The dose of tacrolimus was titrated aiming for serum trough levels between 5–20 ng/mL. Clinical response was assessed by AWH in clinic.
Results Seventeen patients (8 female; mean age 38 [range 19–86]) were treated with tacrolimus. Eleven patients (65%) had a clinical response (median treatment duration 12 [range 2–192] weeks). Four of these (45%) patients developed intolerance to tacrolimus (renal impairment n = 2; tremor n = 1; paraesthesia n = 1) and stopped treatment. Seven patients continued on tacrolimus with clinical response and without side effects. Of the 10 patients whom either failed to respond or were intolerant of tacrolimus, 7 underwent colectomy. Of the remaining 3 patients, 1 declined surgery and 2 patients have responded to treatment with methotrexate.
Conclusion Our experience supports the use of tacrolimus in patients with subacute UC refractory to conventional treatments as an alternative to elective surgery as infliximab is no longer recommended in these circumstances.[3] However only 7 of 17 (41%) patients had a clinical response and tolerated tacrolimus. Close monitoring of renal function and serum trough levels is required. The long-term efficacy and safety of tacrolimus remains unclear.

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Disclosure of Interest None Declared.

PTU-064 INCREASED MUCOSAL EXPRESSION OF INSOLUBLE KERATINS 8, 18 AND 19 IN LONG-STANDING ULCERATIVE COLITIS IN COMPARISON TO RECENT-ONSET ULCERATIVE COLITIS: VALIDATION OF MASS SPECTROMETRY DATA

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Introduction Intermediate filaments (IF) are one of the main components of the human cell cytoskeleton with keratins (K) being the largest component. K8, K18 and K19 constitute the main keratins in the intestinal epithelial cells. Keratin alteration may play a role in the pathophysiology of ulcerative colitis (UC). K8 -/- mice develop chronic colitis. K8 and K18 play a role in TNF-α induced-apoptosis. We have previously shown increased expression of insoluble K8, K18 and K19 in long-standing UC relative to recent – onset ulcerative colitis (≤5 years) using mass spectrometry (MS) in the IF fraction of pooled patient samples. The aim of this study was to use antibody-based relative quantification of K8, K18, K19 in individual patient samples to validate MS results and describe variation in expression across the cohort.

Methods IF proteins were extracted from individual biopsies in patients with long-standing pan-colitis (LSPC) in clinical, endoscopic and histological remission (n = 10) and with recent onset ulcerative colitis (ROUC) also in remission (n = 8). Each sample was dot-blotted on a membrane followed by immunoblotting for identification and quantification of keratins (8, 18 and19) sequentially. MCF-7 cell line was used as control in each experiment. Relative Keratins concentration for each dot- blotted sample was inferred by determining its signal intensity relative to the MCF-7 keratins signal intensity measured in turn by densitometry. Statistical analysis to compare the two groups was made separately for K8, K18, K19 using Mann-Whitney U test.
Results Median relative IF protein levels in patients with LSPC were 1.54, 0.41 and 2.12 for K8, K18 and K19, respectively were significantly higher than those with ROUC: 0.03, 0.05 and 0.07 for K8 ($p = 0.001$), K18 ($p = 0.002$) and K19 ($p = 0.021$), respectively. Median Baron's endoscopy score in patients with LSPC and ROUC were 0 (range 0–1) and 1 (range 0–1), respectively. Median histological activity index in both groups were 0 (range 0–1).
Conclusion This study confirms increased expression of insoluble keratins in colonic epithelial cells during LSPC in remission relative to the levels in ROUC and validate our previous MS observations. Restoration of keratins in quiescent LSPC may be a protective mechanism against recurrent inflammation and colorectal cancer.
Disclosure of Interest None Declared.

PTU-065 IS THERE A ROLE FOR FAECAL CALPROTECTIN IN THE INVESTIGATION OF DIARRHOEA IN PATIENTS WITH HIV?

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Introduction Diarrhoea is the most common gastrointestinal symptom in patients with HIV. Faecal calprotectin (FCP) is a useful test in the investigation of chronic diarrhoea in the general population.[1] The sensitivity of this test in HIV-patients with chronic diarrhoea is unknown.
Methods HIV-positive patients undergoing investigation for CD between January 2011 and August 2013 were identified. Demographics and clinical data including measurement of FCP and endoscopy findings were taken from the patients medical records
Results 60 patients were referred by the HIV team to Gastroenterology clinic for investigation of CD. There were 55 (92%) males, mean age was 44 years. All were receiving antiretroviral therapy. No patients had a previous history of Inflammatory Bowel Disease (IBD), 59/60 had negative stool cultures. One patient was diagnosed with giardiasis and excluded from the study. Of the remaining, 54/59 (92%) patients had FCP measured, of which 36 (67%) demonstrated inflammation. Of these 31/36 (87%) patients with elevated FCP underwent lower GI endoscopy. 9/31 (30%) patients had abnormal macroscopic findings including mild non-specific inflammatory changes (4/31), polyps (2/31), threadworms (1/31) and ileitis (2/31). None had evidence of IBD.
Conclusion In HIV positive individuals receiving antiretroviral therapy 30% patients with elevated FCP had macroscopic disease. No patients had a diagnosis of IBD. No cause beyond anti-retroviral medication was found. FCP is not a useful test to investigate chronic diarrhoea in this patient cohort.

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PTU-066 A MODEL TO ASSESS THE COST OF FLARE IN ULCERATIVE COLITIS (UC) TO THE NHS

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Introduction Disease flare in ulcerative colitis (UC) can result in substantial cost implications to the NHS. While the costs associated with treatment and management of UC are well-documented, estimates of the cost of flare are lacking. A cost analysis was performed to construct a model to estimate the costs associated with managing a flare across variable pathways.
Methods A decision tree model was developed in Excel to estimate the direct medical costs of flares of various clinical severity. Within the model, the baseline UC patient cohort was maintained on Asacol® (mesalazine) at a maximum dose of 2.4 g/day. Simplified care pathways were mapped, assuming that patients would either be treated and managed in primary care, or as an outpatient, or admitted to hospital. Taking a conservative approach, costs for surgery and other procedures e.g., stoma care were excluded as these outcomes are rare and inclusion would significantly increase average flare cost estimates. Treatment and management strategies were based on best practice guidelines, published data sources and clinical expert opinion. Drug costs were calculated using the British National Formulary (BNF) and healthcare management costs were based on published unit costs. The relative proportions of patients likely to follow each route of the treatment pathway were estimated and weightings were applied to enable calculation of an average cost of flare.
Results The estimated annual cost to manage a patient with UC in remission was £955. The estimated cost to control a flare in primary care was £175 and for secondary care outpatient management was £578. For secondary care inpatient management, the estimated cost was £3488. If a biologic/ciclosporin was needed, the estimated cost rose to £4272. All costs were inclusive of clinical investigations and treatment reviews. The proportions of patients managed via each pathway were applied to calculations resulting in an estimated average cost of flare of £984.
Conclusion A model was developed, based on simplified decision tree pathways to enable estimation of the cost of flare in UC. Depending on the severity of the flare episode, costs ranged from £175 to £4272. In the future, this model can be used for economic evaluations of interventions to reduce the risk of flare in UC and to help understand the costly aspects of managing ulcerative colitis.
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PTU-067 THE FATE OF FLAT LOW-GRADE DYSPLASIA IN ULCERATIVE COLITIS

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