moderate-to-severe disease. However, these drugs tend to perform less well in the maintenance of remission. Route of administration may influence efficacy and network meta-analyses of trial data indicate a superiority of intravenous drugs (IV; Infliximab; IFX) over subcutaneous (SC; adalimumab; ADA). We conducted a retrospective multicentre case-control study to compare the efficacy of these two drugs.

Methods Patients administered IFX or ADA as their first biologic, identified from therapy databases of five UK hospitals, were included, if they had completed induction dosing and entered maintenance. Patients receiving IFX as 'rescue' therapy were excluded. Data was collected for pre-biologic disease activity (Simple Clinical Colitis Activity Index (SCCAI), C-reactive protein and calprotectin) and throughout anti-TNF therapy. The primary end-point for comparison was the number of patients in clinical remission at 52 weeks (combined features of continuing IFX or ADA therapy and SCCAI score ≤ 3). Data was collected for duration of therapy, or up to last follow-up, if beyond 52 weeks.

Results 78 IFX (40.3 ± 14.6 years, 33F) and 63 ADA (36.8 ± 14.6 years, 27F) patients were analysed. There were no statistically significant differences in demographics or pre-biologic disease activity between the two groups. At 52 weeks, 58 (74%) IFX patients and 29 (46%) ADA patients remained on therapy ($p=0.009$) and in remission (26 (33%) vs 5 (8%), $p=0.0003$). Primary non response was the reason for treatment cessation in 15 (24%) ADA patients and 4 (5%) IFX patients ($p=0.0012$).

Conclusions Our results from a real-world cohort mirror those produced in the network meta-analyses of clinical trials for these agents, suggesting that IFX is superior to ADA in UC maintenance of remission, demonstrated by improvement in SCCAI scores and treatment continuation at 52 weeks. There were no significant differences in colectomy rates, hospital admission for acute flares or adverse events in the study timeframe.

REFERENCE

1. Danese S, Fiorino G, Peyrin-Biroulet L, Lucenteforte E, Virgili G, Moja L, Bonovas S, (2014), Biological agents for moderately to severely active ulcerative colitis: a systematic review and network meta-analysis., *Ann Intern Med*, 160:704–11.

PTU-008 INTERLEUKIN 23 AS A NON-INVASIVE TEST OF DISEASE SEVERITY IN PATIENTS WITH ULCERATIVE COLITIS

^{1,2}Angie Rund*, ²Tarek Youssef, ²Shereen Saleh, ²Iman Fawzy, ²Manal Mohsen, ²Ola Hazem. ¹Royal Liverpool University Hospital, Liverpool, UK; ²Ain Shams University Hospitals, Cairo, Egypt

10.1136/gutjnl-2018-BSGAbstracts.130

Introduction Studies have found increased expression of IL-23 in inflamed and non-inflamed mucosa of patients with ulcerative colitis (UC). This study was done to evaluate serum interleukin-23 as a non-invasive test for ulcerative colitis disease and assessed its correlation with the disease severity.

Methods A prospective case-control study where 80 patients were recruited, and allocated into two groups:

Group I: included forty patients diagnosed with UC by clinical, endoscopic and histopathologic features.

Group II (control group): included 40 patients without UC, matched in age and gender, who had colonoscopy for various

indications but had a normal colonoscopy and normal histopathology.

In patients with UC, disease severity was assessed using the Mayo Scoring System for assessing UC activity. Serum IL-23 level was quantified using Quantikine Human IL-23 Immunoassay by R and D Systems Europe, Ltd. ELISA kit. IL-23 levels were compared in the 2 groups, also correlation with severity was obtained.

Analysis of the data was done using SPSS (Statistical System for Social Science version 16). Kruskal Wallis test was used to compare the 2 groups regarding quantitative nonparametric variables. Spearman correlation was used to rank variables positively or inversely. Receiver operating curve (ROC) was used to find the best cut off and validity of IL-23. The one-way ANOVA test was used to assess the relationship between the severity of UC and IL-23 levels.

Results Patients with UC had higher level of interleukin 23 (234.5 ± 161 pg/mL) compared to controls (54.2 ± 15 pg/mL). A positive correlation was found between the level of IL-23 and disease severity. A cut off value of IL-23=68 pg/mL was the best to differentiate between cases and controls. Performing the receiver operating characteristic curve (ROC) revealed that the best cut off values of IL-23 to identify the severity of ulcerative colitis were 105 pg/mL for mild cases (80% sensitivity), 200 pg/mL for moderate cases (60% sensitivity), and 270 pg/mL for severe cases (81% sensitivity).

Conclusion Our findings reinforce the suggestion that IL-23 level measurement may be of value as a non-invasive test in the diagnosis and disease severity assessment in patients with UC. Further studies on a larger scale would be needed to evaluate whether this could be used for monitoring of response to treatment. In view of IL-23 antagonists currently being studied in UC patients, the predictability of response to IL-23 antagonists guided by IL-23 levels is an area that could be explored.

PTU-009 UPPER GASTROINTESTINAL INFLAMMATION IN PATIENTS WITH IMMUNE-CHECKPOINT INHIBITOR INDUCED DIARRHOEA

¹Muhammad Waqas Fazal*, ²Lavinia Spain, ¹Hajir Ibraheem, ³Nadia Yousaf, ²Martin Gore, ²James Larkin, ²Samra Turajlic, ¹Nick Powell, ²Lewis Au. ¹Gastrointestinal Unit, Royal Marsden Hospital, Chelsea, UK; ²Skin Unit, Royal Marsden Hospital, Chelsea, UK; ³Lung Unit, Royal Marsden Hospital, Chelsea, UK

10.1136/gutjnl-2018-BSGAbstracts.131

Introduction Immune Checkpoint inhibitors (ICPi) have revolutionised the management of melanoma, non-small cell lung cancer and renal cancer. They block receptors expressed by immune cells that reduce immune activation. 'Turbo-charged' immune cells deliver augmented anti-tumour immunity (hence the striking efficacy of these anti-cancer agents), but comes at the cost of immune mediated side effects. Immune-mediated damage to the gut is a common and serious side effect of ICPi therapy. Endoscopic and histological findings in the lower gastrointestinal (GI) tract have been described (colitis is a common feature), but little is known about manifestations in the upper GI tract.

Methods We performed a retrospective analysis of all patients presenting with diarrhoea following treatment with ICPis (ipilimumab, nivolumab, pembrolizumab or combination therapy) who had been investigated with OGD. Endoscopic and

histopathological data were recorded. Lower GI findings in this cohort were also analysed.

Results We reviewed 40 OGDs performed in our unit for melanoma patients who developed diarrhoea after starting treatment with ICPi patients. In all cases flexible sigmoidoscopy or colonoscopy was also performed. Inflammatory changes were common, including gastritis (40%) and duodenitis (17.5%). Importantly, even in the absence of macroscopically visible mucosal injury, there was a significant burden of microscopic inflammation, especially in the duodenum. In patients with a normal duodenoscopy, significant microscopic changes were present in 28% of patients. Significant histological abnormalities included chronic inflammation and/or increased intraepithelial lymphocytes (86%) and villous atrophy (71%), consistent with pathologically relevant mucosal immune activation. Abnormalities in the oesophagus were also common (32%), but were dominated by candidiasis (15%), likely secondary to high-dose steroids used to treat this challenging condition. All patients in this cohort of ICPi-induced diarrhoea patients investigated with OGD additionally underwent lower GI endoscopy, which confirmed the presence of colitis in 65% of patients. Importantly, upper GI disease was just as common in patients with a normal lower GI investigation (57%) as those with overt colitis (54%).

Conclusions There is a significant burden of upper GI pathology, including macroscopic and microscopic mucosal injury and excessive immune accumulation, most notably in the duodenum, in patients with diarrhoea secondary to ICPi therapy. Additional findings that altered management included oesophageal candidiasis (likely a side-effect steroid therapy, which is usually rapidly initiated as soon as patients present with diarrhoea). Importantly, upper GI pathology is just as common in patients without colonic disease. OGD should be part of diagnostic work up of patients developing diarrhoea in the context of ICPi therapy.

PTU-010 PREVALENCE AND PHENOTYPE OF IBD ACROSS PRIMARY AND SECONDARY CARE: IMPLICATIONS FOR COLORECTAL CANCER SURVEILLANCE

Benjamin Hamilton*, Neel Heerasing, Peter J Hendy, Lucy Moore, Gareth J Walker, Claire Bewshea, Tariq Ahmad, James R Goodhand, Nicholas A Kennedy. *Royal Devon and Exeter Hospital, Exeter, UK*

10.1136/gutjnl-2018-BSGAbstracts.132

Introduction Patients diagnosed with colonic IBD have increased risk of colorectal cancer (CRC). Colonoscopic surveillance reduces the risk of CRC-associated death through early detection; national/international guidelines recommend chromoendoscopy. We aimed to assess the burden of IBD in primary care unknown to our service and to identify patients eligible for surveillance.

Methods We conducted a population-based observational study across primary and secondary care to evaluate the incidence/prevalence of IBD in our catchment. We identified cases from primary care using searches of practice databases and in secondary care using searches of hospital records. Case inclusion required a specialist diagnosis of ulcerative colitis (UC), Crohn's disease (CD) or IBD unclassified. IBD was phenotyped according to the Montreal Classification and patients under the age of 75 years, who had been diagnosed with IBD

with colonic disease involvement for more than 10 years, were deemed eligible for colonoscopic surveillance.

Results Patients from 48/49 GP practices within our catchment were included. We identified 3690 patients with IBD living within our catchment of which 12% (875/3,690) were unknown to any local secondary care service. Overall, UC prevalence was 453/100 000 people (95% confidence interval 433–474), Crohn's disease prevalence was 311/100 000 (95% CI 293–327), and IBD unclassified prevalence was 44/100 000 (95% CI 38–51). Patients managed solely in primary care, compared with those in secondary care, were older (mean age 60.9 vs 56.2 years, $p<0.0001$) and had longer disease duration (20.3 vs 14.2 years, $p<0.0001$). The proportion of UC out of total IBD was higher in primary care (69% vs. 58%, $p<0.0001$). A higher proportion of IBD patients in primary care than secondary care had undergone a colectomy (17% vs 5%, $p<0.0001$). Overall, 13% (388/2,815) patients known to secondary care and 29% (257/875) of patients unknown to any secondary care services were eligible for colonoscopic surveillance, equivalent to approximately one colonoscopy list per week.

Conclusions We report one of the highest prevalence rates of IBD in Western Europe (1 in 124 patients). 12% of patients living in our immediate catchment area were unknown to our service; a third of these were eligible for colonoscopic colorectal cancer surveillance. Effective colorectal cancer surveillance programmes in IBD must target primary-care populations and not just known secondary care populations.

PWE-001 EFFECTS OF EBV NAIVE STATUS ON TREATMENT DECISIONS IN IBD

Tehmina Ahmed*, Francesca Brown, Ruhina Ahmed, Simon Whitehead, Helen Steed, Matthew Brookes. *Royal Wolverhampton NHS Trust, Wolverhampton, UK*

10.1136/gutjnl-2018-BSGAbstracts.133

Introduction Thiopurines, through an association with Epstein Barr Virus (EBV), confer an increased risk of GI lymphoma when used to treat Inflammatory Bowel Disease (IBD), with EBV naïve individuals carrying a higher risk.

Current European Crohn's and Colitis Organisation (ECCO) guidelines recommend considering EBV screening in individuals prior to initiating immunomodulator therapy.

This audit identifies the impact of EBV naïve status on subsequent treatment decisions and the resulting cost expenditure at the Royal Wolverhampton NHS Trust (RWHT).

Methods We conducted a retrospective analysis of IBD patients undergoing EBV screening between June 2015 and June 2017 and extracted relevant data from electronic records.

Results Overall 359 patients underwent EBV screening in the specified period with 43 (12%) patients being identified as EBV naïve. The EBV naïve sample consisted of 27 (63%) males and 16 (37%) females, with a mean age of 40.

Of these 43 patients, 5 were excluded from further analysis as their EBV status was tested for reasons unrelated to IBD management and 4 were excluded as their treatment was altered for reasons other than their EBV status. Table 1 shows the breakdown for the remaining 34.

Table 1 Number of patients undergoing EBV screening for initial thiopurine or biologic therapy and the resulting number of patients in whom therapy was switched and the subsequent cost expenditure. *Calculated based on the cost of 12 months