Introduction Early adenoma detection is shown to reduce mortality from colorectal cancers. Advances in endoscopy are aimed at improving adenoma detection. Contrast enhancement using dye spray is reported to improve the detection of subtle mucosal changes. We aim to perform a meta-analysis to look at the effect of chromoendoscopy on adenoma detection in the colon.
Methods Various electronic databases were searched for articles reporting on detection of polyps during colonoscopy comparing standard while light endoscopy and chromoendoscopy. The pooled mean differences in total number of adenomatous polyps detected, number of right and left sided polyps, advanced and flat adenomas, total number of polyps and number of < 5mm polyps detected was calculated. A fixed effects model was used unless there was significant heterogeneity. Publication bias was assessed using Funnel plots and Egger's test and heterogeneity was assessed using Cochran's Q and the I^2 test.
Results 3714 number of patients from 14 studies were included in the analysis. 7 studies were randomised controlled trials and 7 had a tandem colonoscopy study design. Chromoendoscopy detected significantly higher number of adenomas, advanced adenomas, right and left sided adenomas (Table 1). A significantly higher number for hyperplastic and small (< 5mm) polyps were detected by chromoendoscopy but no differences were noted for detection of flat adenomas. A random effects model was used because there was significant heterogeneity between the studies. There was some publication bias noted on the funnel plot with fewer number of smaller negative studies included. Sensitivity analysis for publication bias using the trim and fill method which did not change the statistical significance of the pooled analysis.

Abstract PWE-072 Table 1

Variable	Pooled mean difference	P value
Adenoma detection	0.139 (95% CI 0.082 to 0.195)	0.0001
Right sided adenomas	0.137 (95% CI 0.048 to 0.226)	0.003
Left sided adenomas	0.117 (95% CI 0.007 to 0.227)	0.036
Advanced adenomas	0.105 (95% CI 0.017 to 0.194)	0.019
Flat adenomas	0.154 (95% CI –0.084 to 0.393)	0.205
Hyperplastic	0.364 (95% CI 0.281 to 0.447)	0.001
< 5mm	0.271 (95% CI 0.172 to 0.369)	0.001

Conclusion Conclusions: Chromoendoscopy improves detection rate of adenomatous polyps compared to conventional white light endoscopy. This seems greater for advanced as well as right sided adenomas, but significantly higher number of hyperplastic and small (< 5 mm) polyps were detected by chromoendoscopy. Future work needs to focus on the cost effectiveness of chromoendoscopy taking into account the increased time and cost of chromoendoscopy and long term outcomes like reduction in colorectal cancer rates between chromoendoscopic and conventional colonoscopy surveillance.
Disclosure of Interest None Declared.

Inflammatory bowel disease

PWE-073 THE MULTIDIMENSIONAL NATURE OF IBD FATIGUE: A SYSTEMATIC REVIEW AND META- ANALYSIS

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Introduction Fatigue is recognised as a troublesome symptom for patients with IBD. There is no consensus regarding mechanisms driving fatigue or treatment. The aim of the present study is to assess the factors associated with IBD fatigue, using a systematic literature review and meta-analysis.

Methods A systematic literature review was performed in PubMed and EMBASE and additional articles and abstracts were identified by a hand search. All studies reporting correlation coefficients (CCs) of fatigue with disease activity were included. A random-effects model was employed to produce a pooled estimate of CCs, which was the effect size in the current analysis. Fisher's Z transformation of the CCs was utilised for the analysis. Publication bias was assessed with funnel plots and Egger's test. All computations were executed with Stata 10.0 and MetaWin.
Results 23 studies were eligible for inclusion (total sample size = 5980). Fatigue was strongly correlated with IBD disease activity (pooled CC 0.386; 95% CI 0.335 to 0.435, range 0.165 to 0.540). Although there was no publication bias (failsafe N = 958), there was moderate heterogeneity ($Q = 33.74$, $df = 14$, $p = 0.002$; $I^2 = 58.5\%$). Subgroup analysis showed a relationship between the correlation of fatigue and disease activity with population group (adult, paediatric) but not with country. Meta regression with percentage of males and mean age did not suggest that either were significant moderators of the particular correlation coefficient. Fatigue was also strongly correlated with quality of life (pooled CC –0.534; 95% CI –0.636 to –0.414), psychological distress (pooled CC 0.515; 95% CI 0.412 to 0.606) and daytime sleepiness (pooled CC 0.400; 95% CI 0.32 to 0.471), and was moderately correlated with anaemia (pooled CC 0.167; 95% CI 0.104 to 0.231) and social and functional impairment (pooled CC 0.288; 95% CI 0.133 to 0.424). Flare ups were not a significant predictor of fatigue ($p > 0.05$). Heterogeneity was present in all analyses ($p < 0.05$), except for the meta-analyses with anaemia, daytime sleepiness and social and functional impairment. Publication bias (assessed with the funnel plot) was more probable in the secondary factors compared with disease activity analyses in the initial correlation.
Conclusion A number of factors were found to correlate with IBD fatigue. These include: psychological distress, daytime sleepiness, disease activity, anaemia and social and functional impairment. This suggests both cognitive and physical aspects of IBD fatigue and clearly highlights the multidimensional nature of this symptom.

This is part of a larger study conducted in collaboration with Crohn's and Colitis UK, King's College London and Addenbrookes' NHS Trust, funded by the Big Lottery Fund.
Disclosure of Interest None Declared.

PWE-074 HOW OFTEN DO WE DISCONTINUE MAINTENANCE INFLIXIMAB DUE TO CLINICAL REMISSION IN CROHN'S DISEASE?

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Introduction Biologics are increasingly used in the management of Crohn's disease (CD). NICE guidelines advise reassessing CD patients after 12 months of treatment with infliximab and discontinuing therapy for patients in stable clinical remission. Evidence suggests that sustained remission may be achieved in up to 50–60% of these patients on withdrawal of treatment. However, it is recognised that decisions regarding continuing treatment must be individualised and take into account previous disease behaviour. We sought to determine how often in clinical practise maintenance infliximab was discontinued due to clinical remission.
Methods All patients treated with infliximab for CD between September 2006 and December 2012 were identified from our inflammatory bowel disease (IBD) database. Dates of initiation and termination of treatment were recorded along with the reason for discontinuation. Patients continuing on infliximab were analysed in more detail. Patient demographics, past medical history, Montreal classification, baseline investigations, Harvey-Bradshaw index (HBI) and faecal calprotectin (FC) levels were recorded.

Results 114 patients were identified. 11 patients transferred care and were excluded. 91/103 (88.3%) received maintenance (>6 weeks) treatment. 47.3% had discontinued treatment while 52.7% remained on treatment. The median length of treatment was 73 (range 8–329) weeks. Only 23.3% (10/43) discontinued infliximab due to clinical remision with 34.9% (15/43) stopping because of complications and 39.5% (17/43) due to loss of response, surgery or death. The median course of treatment for those continuing on infliximab was 101 (range 8–329) weeks. 37 patients (21 female, mean age 40 years) were on maintenance infliximab treatment for over 1 year. 73% of these patients were on combined treatment with an immunomodulator and 37.8% (14/37) had required dose escalation or a reduction in dose interval. In patients continuing treatment for over 1 year, the median FC was 184μg/g (range 30–9000) with a median reduction in FC level post-treatment of 416μg/g (range –3000–7086) and a median HBI of 4 (range 0–16). 57.1% could be defined as being in clinical remission with HBI < 5.

Conclusion In our large cohort of CD patients, few patients discontinued infliximab due to clinical remission. In those continuing infliximab for over 1 year the median FC was low, suggesting good control of inflammation, and the majority of patients were in clinical remission as defined by a HBI < 5. These results support the efficacy of infliximab as maintenance therapy in CD but suggest that despite evidence of clinical remission the majority of patients continue therapy.

Disclosure of Interest None Declared.

PWE-075 ASSOCIATION BETWEEN THIOPURINE USE AND NON-MELANOMA SKIN CANCERS IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: A META-ANALYSIS

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Introduction Thiopurines are the mainstay of treatment for patients with inflammatory bowel disease (IBD). Thiopurine therapy increases the risk of non-melanoma skin cancers (NMSC) in solid organ transplant patients. The data on NMSC in patients taking thiopurines for IBD is conflicting.

Methods We searched electronic databases (PubMed, OVID, the Cochrane library, EMBASE and CINAHL) for full journal articles reporting on the risk of developing NMSC in patients taking thiopurines for IBD and hand searched the reference lists of all retrieved articles. Pooled adjusted hazard ratios and 95% confidence intervals were determined using a random effects model. Publication bias was assessed using Funnel plots or Egger's test for regression asymmetry. Heterogeneity was assessed using Cochran's Q and the I^2 statistic.

Results A total of 8 studies involving 60,351 patients provided data on the risk of developing NMSC in patients with IBD on thiopurines. The pooled adjusted hazard ratio of developing NMSC after exposure to thiopurines in patients with IBD was 2.275 (95% CI 1.502 to 3.446). There was significant heterogeneity (I^2 76%) between the studies, but no evidence of publication bias ($P = 0.15$, intercept = –6.7 and 95% CI: –17.2 to 3.7). Meta regression analysis suggested that the population studied (hospital based versus population based) and duration of follow up (> 3 years) were the major contributors to the heterogeneity. Grouping studies according to population studied and also duration suggests that the risk was much higher in hospital based and shorter duration studies (Table).

Conclusion The risk of developing NMSC in patients with IBD on thiopurines is only modestly elevated. This effect loses significance when studies with less than 3 years follow-up are excluded. The difference in pooled risk between population based and hospital based studies suggests the possibility that ascertainment bias could have contributed to this increased risk. Use of thiopurines to treat IBD should not be limited by this marginally increased risk of NMSC.

Disclosure of Interest None Declared.

Abstract PWE-075 Table

	Pooled Hazard Ratio	95% Confidence Intervals
All Studies	2.275	1.502–3.446
Follow-up < 3 years	2.869	2.017–4.080
Follow-up > 6 years	1.876	0.868–4.056
Population based	1.828	1.196–2.795
Hospital based	7.217	3.082–16.898

PWE-076 DENDRITIC CELL CHARACTERISTICS IN POUCHITIS

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Introduction The role of dendritic cells (DC) in inflammatory bowel disease is increasingly recognised for their function in regulating intestinal immune responses. To our knowledge there are no previous studies of DC in pouchitis. We aimed to characterise changes in DC in pouchitis that may underlie the dysregulated immune response to the pouch microbiota.

Methods Mucosal biopsy samples were taken from patients with pouchitis (n = 14) and ulcerative colitis patients without pouchitis (n = 10). Lamina propria DC were isolated by collagenase digestion. DC were identified as an HLA DR+, lineage -(CD3-, CD14-, CD16-, CD19-, CD34-) population. DC expression of TLR 2 and 4, CCR9, β7 and CD40 were measured by multicolour flow cytometry. The t-test was used for statistical analysis.

Results DC expression of TLR 2 and 4 were both significantly elevated in patients with pouchitis compared with non-pouchitis patients ($p = 0.007$ and 0.008). In pouchitis patients, DC expression of β7 was increased ($p = 0.02$) and expression of CCR 9 was decreased ($p = 0.02$). DC expression of CD40 was increased in patients with pouchitis ($p \leq 0.0001$).

Conclusion In pouchitis, DC are activated and upregulate expression of microbial recognition receptors. In addition, DC expression of gut homing markers is elevated in pouchitis with a more colonic homing marker profile. Similarly to other IBD, DC are likely to be key in the initation and perpetuation of the inflammatory response to the dysbiosis of the pouch microbiota

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PWE-077 ALTERED EPITHELIAL TIGHT JUNCTION EXPRESSION AND ELEVATED IL 6 LEVELS IN POUCHITIS

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Introduction Intestinal epithelial barrier function limits the interactions between microbial antigens and the mucosal immune system. In IBD, epithelial barrier function is impaired with altered expression of tight junctions. We aimed to assess epithelial tight junction expression and mucosal cytokines in acute and chronic pouchitis and non-inflamed pouches of patients with ulcerative colitis.