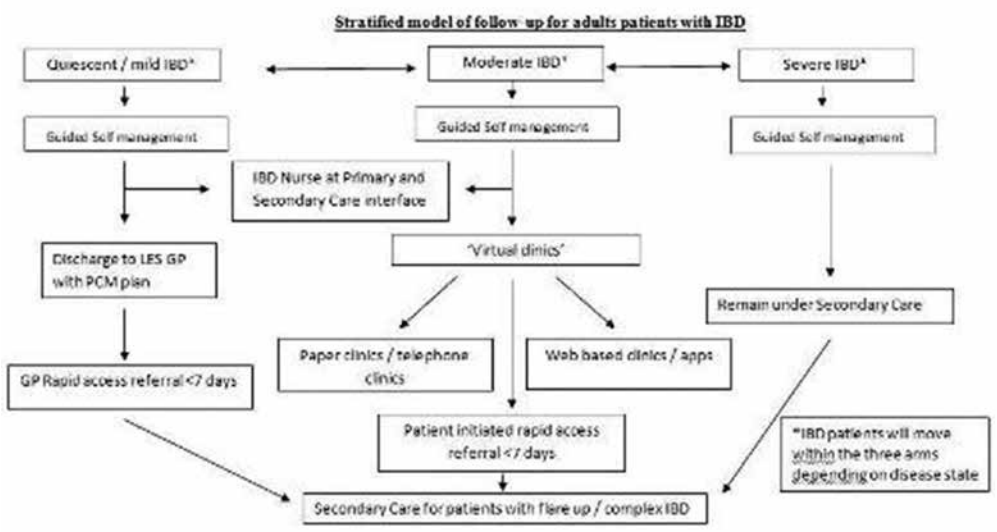

Abstract PWE-083 Figure

Results There were similarities between 3 groups of interviews. Pts did not want to be seen when well, GPs wanted more involvement in care and there is scope for an IBD outreach nurse at interface of primary/secondary care. Discharging quiescent pts into enhanced GP care, to ensure equitable treatment, was acceptable to all, as was the concept of 'virtual' clinics. Patients would initiate self referral within the virtual arm whilst pts under GP care would be referred by GP. Pts would be referred as a rapid FU < 7days and not as a new pt tariff. Complex IBD patients would remain under secondary care. Patients will move across the 3 arms depending on disease.

Conclusion This study provides an acceptable integrated model of FU for pts with IBD. It takes into account UK policy to reduce inappropriate FU, with emphasis on self management and integrating care, placing the pt closer to home, with secondary care emphasis on complex pt management.

Disclosure of Interest None Declared.

PWE-084 WHOLE BLOOD MRNA EXPRESSION PROFILING OF CROHN'S DISEASE IN THE CERTIFI USTEKINUMAB STUDY DISCRIMINATES CLINICAL SUBTYPES

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Introduction Objective markers of Crohn's Disease (CD) activity have been sought as diagnostic, phenotypic, prognostic and disease activity markers. Complications such as stricture and fistula and characteristics such as TNF-antagonist responsiveness have been suggested as discreet mechanistic CD subtypes. This study explored the ability of genome wide expression profiling in whole blood to differentiate CD sub-populations.

Methods In the previously reported Phase 2b ustekinumab CERTIFI study of patients with moderate to severely active CD who had failed or were intolerant to TNF-antagonists, whole blood samples were collected from a subset for mRNA expression profiling using Affymetrix HG-U133+ PM arrays. Baseline expression profiles were compared between patient sub-groups characterised by defined baseline disease attributes; and compared with those from samples obtained independently from healthy subjects. Expression modulations of > +/-1.5x and false discovery rate (FDR) p-value < 0.05 were considered significant.

Results Patients (n = 204) with moderate to severe CD had significant expression modulations in 1725 transcripts in the whole blood compared with healthy subjects (n = 49), including genes involved in inflammatory response and connective tissue disorders. A panel of 20 transcripts (including GAB2 and IL18R1) discriminated patients with only colonic (n = 49) vs. strictly ileal (n = 60) disease involvement. Significantly different expression modulations of 169, 321, and 151 transcripts, respectively, were identified in patients with high baseline CRP (>10 mg/dL, n = 97), faecal calprotectin (>850 mg/g, n = 80) or lactoferrin (>100 mg/g, n = 89) compared with patients with low baseline CRP (<3 mg/dL, n = 45), faecal calprotectin (<250 mg/g, n = 58), or lactoferrin (< 100 mg/g, n = 107). As expected, patients with high baseline CRP, faecal calprotectin, or lactoferrin had elevated gene expressions in inflammatory pathways such as IL-6 and acute phase response signalling. In contrast, gene expression profiles did not differentiate between patients with different durations of disease (long [>15 yrs] vs. short [<5yrs]); prior treatment response (Primary responder vs. non-responder) and treatment history (number of TNFs failed); and the presence or absence of complications (stricture/stenosis, fistula).

Conclusion Genome-wide expression profiling of peripheral blood samples provides the understanding of CD at the molecular level in circulation. This is a new, non-invasive method that can be used to identify systemic markers of local pathological alterations in CD and to discriminate clinically between different CD sub-types.

Disclosure of Interest K. Li Employee of: Janssen R&D, LLC, C. Brodmerkel Employee of: Janssen R&D, LLC, S. Telesco Employee of: Janssen R&D, LLC, K. Ma Employee of: Janssen R&D, LLC, C. Gasink Employee of: Janssen R&D, LLC

PWE-085 CT ENTEROGRAPHY REMAINS A VALUABLE TOOL FOR THE ASSESSMENT OF CROHN'S DISEASE

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Introduction Advances in the immunopathogenesis of inflammatory bowel disease (IBD) coupled with bolder definitions of disease control have led to increasing reliance on imaging to characterise inflammation beyond the reach of the endoscope. Clinical activity

indices underestimate biologic activity and cannot detect transmural disease. We aimed to assess the role of CT enterography (CTE) in assessing Crohn's disease (CD).

Methods A retrospective review of 406 consecutive CTE studies was performed between January 2009 and December 2012 at our institution. Clinical data including demographics, disease characteristics and therapy were obtained from electronic patient record review. Inflammatory markers, radiological investigations and ileocolonoscopy when performed within 90 days of CTE were recorded. CTE reports were recorded using accepted activity criteria- small bowel dilatation, stenosis, wall thickening, enhancement, mucosal irregularity, mesenteric inflammation, hypervascularity, lymph node enlargement, abscesses, fistulation and extraintestinal features.

Results Of 175 patients with IBD at time of CTE, 154 had CD. Ninety-four of 154 patients were female, mean age 52 (range 16–87) and median term of follow up of 5 years (range 0–35).

Abnormalities were noted in 100 scans; 56 had active non-stricturing, 42 active stricturing and 2 fibrostenotic disease. Within active groups, there were 10 fistulae and 3 abscesses in 11 patients. Ileocolonoscopy was performed in 42 patients with 27 showing active inflammation and raised CRP in 38/96. Treatment was increased in 52% of the active non-stricturing group, 6/29 to azathioprine, 4/29 to biologics, 4/29 to methotrexate, 7/29 to steroids, 5/29 to surgery with no change in the remaining 48%, of whom 8/12 had inactive disease at ileo-colonoscopy and 16/24 normal CRP.

In 57% of active stricturing patient treatment was increased in 1 to azathioprine, 11 to biologics, 5 to surgery. Twelve of 26 patients in this group had an elevated CRP and 10/13 had active colitis at ileo-colonoscopy.

Of 53 normal CTE, treatment was escalated in 3 to methotrexate or azathioprine with colitis at colonoscopy and unchanged in 92%.

Conclusion Concerns regarding potential cumulative effects of ionising radiation are valid but likely to be offset by changing technology and reduction in average doses of radiation.

CTE has a role in well-selected patients with CD (e.g. age > 50, very sick patients) identifying active disease and influencing meaningful therapeutic decisions.

Disclosure of Interest None Declared.

PWE-086 THE ROLE OF HUMAN NEUTROPHIL ELASTASE AND ITS INHIBITOR ELAFIN IN ULCERATIVE COLITIS

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Introduction Mucosal inflammation in ulcerative colitis (UC) is characterised by an influx of neutrophils which secrete large amounts of human neutrophil elastase (HNE), causing matrix degradation. They also produce the elastase-specific inhibitor, elafin. The aim of this study is to evaluate the relative production of elastase and elafin in active UC, and to investigate the modulatory effect of elafin on mucosal proteolytic activity *ex vivo*.

Methods We utilised intestinal biopsies from 18 patients with active UC and 12 non-UC healthy controls. Biopsies were homogenised and lysed to extract mucosal proteins. Proteolytic activity, using elastin as a substrate, was determined. Concentrations of elafin were measured using ELISA. The effect of protease inhibitors on proteolytic activity were determined *in vitro* using elafin, marimastat (matrix metalloproteinase inhibitor) and the synthetic elastase inhibitor, AAPV [N-(Methoxysuccinyl**)-**Ala-Ala-Pro-Val Chloromethyl Ketone]. The effect of elafin on proteolytic activity *ex vivo* was assessed by 24 hour organ culture in the presence and absence of elafin. Unpaired Student's t-test was used for statistical analyses.

Results Mucosal protein homogenates from patients with active UC displayed higher proteolytic activity in comparison to healthy controls ($p = 0.002$). Elafin levels were increased in mucosal homogenates from active UC ($p = 0.007$). The addition of elafin, marimastat or AAPV, *in vitro*, each diminished proteolytic activity. Organ culture of UC biopsies in the presence of elafin reduces the proteolytic activity of active UC *ex vivo* (n.s.).

Conclusion Colonic mucosal tissue from UC patients displays significantly higher elastinolytic activity in comparison to healthy controls. The addition of elafin has a restorative effect on the elastinolytic activity of UC mucosal homogenates, with the most notable effect in those tissues that had highest proteolytic activity. This occurs in the presence of significantly higher quantities of elafin in active UC mucosa. These data also show a beneficial modulatory effect of elafin on human gut tissue, suggesting a possible role for supplementary elafin in the treatment of UC.

Disclosure of Interest None Declared.

PWE-087 A CRITICAL REVIEW OF GROUNDED THEORY USE IN INFLAMMATORY BOWEL DISEASE STUDIES

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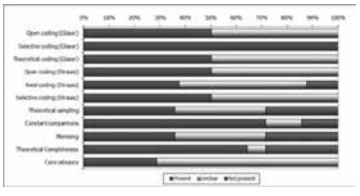
Introduction Grounded Theory (GT) is a research methodology predominantly used with qualitative data. The purpose of the present study is to critically evaluate the use of GT in inflammatory bowel disease (IBD) studies and to examine the clinical implications this entails.

Methods A systematic literature review was performed using keywords *Grounded Theory* and *IBD* in Pubmed, EMBASE and Scopus with no time limits. Assessment of GT was performed using standard criteria suggested by Glaser (1998). The application of the following basic principles was examined: simultaneous data collection and analysis; construction of analytic codes and categories from data, not from preconceived logically deduced hypotheses; use of constant comparative method; advancement of theory development during each step of data collection and analysis; memo-writing; sampling aimed toward theory construction (theoretical); Literature review after the core category emergence.

Results Fifteen studies have used GT investigating patient education, quality of life, experiences with therapeutic strategies or coping mechanisms in IBD, providing theories based on emerging categories. About half of all studies have applied the basic principles of GT, with the remaining studies being unclear or having not applied them. The most reported priniciple was Glaserian selective coding and least reported were memoing, theoretical sampling and the achievement of theoretical completeness, while the identification of the core category was unclear in many instances (Figure 1). These weaknesses are attributed predominantly to methodological, verification and reporting bias. These biases affect the applicability of these results in clinical practise. Hence, results concerning quality of life or experiences of IBD patients should be treated with caution, as they could represent authors' predisposition from the their experience (empirical or from literature reviews).



Abstract PWE-087 Figure 1