Conclusion This study confirms that differences in miRNA expression profiles between CD strictured and non-strictured areas can be detected. Upregulation of collagen mRNA shows that miR-34a might play a functional role in modulating fibrosis in CD, however further studies to investigate the impact of increased collagen protein are required. Manipulation of miRNA profiles may be a novel therapeutic strategy against fibrosis in Crohn's disease.

Competing interests None declared.

PMO-230 CLINICAL RISK FACTORS FOR CROHN'S DISEASE POSTOPERATIVE RECURRENCE ARE REFLECTED IN ALTERATIONS IN MUCOSALLY ADHERENT MICROBIOTA AT SURGICAL RESECTION

doi:10.1136/gutjnl-2012-302514b.230

[1,2]A U Murugananthan,* [2]D O Bernardo, [2]P Tozer, [1]A L Hart, [2]S C Knight, [3]K Whelan, [1]N Arebi, [2]H O Al-Hassi. *[1]Gastroenterology, St Mark's Hospital, London, UK; [2]Antigen Presentation Research Group, Imperial College, London, UK; [3]Diabetes and Nutritional Sciences Division, KIng's College London, London, UK*

Introduction Clinical risk factors for Crohn's disease (CD) recurrence after ileo-caecal resection (ICR) include smoking status, perforating disease and >1 surgical resection. The underlying mechanisms contributing to clinical risk are unknown. We aimed to study the relationship between risk factors and gut microbiota.

Methods Samples of macroscopically inflamed and non-inflamed small bowel from patients undergoing surgical resection for CD were analysed. Samples were snap frozen in liquid nitrogen. Cryosections were cut and the frozen sections were hybridised with oligonucleotide probes targeting the microbial 16S rRNA of total bacteria, *Escherichia coli*, Bacteroides-Prevotella, *Faecalibacterium prausnitzii*, *Clostrium coccoides- Eubacterium rectale* and bifidobacteria. The hybridised mucosa associated microbiota (MAM) were identified and quantified. Patients with ≥1 risk factor were classified as high risk for disease recurrence.

Results Fifteen patients underwent ICR (10 female); 9 were high risk (6 smokers, 4 fistulating disease and 2 recurrent resection- 3 patients had multiple risk factors). *Faecalibacterium prausnitzii* numbers in inflamed operative samples were lower in smokers compared with non-smokers (p=0.036). High-risk patients had lower numbers of bifidobacteria in both inflamed (p=0.006) and non-inflamed (p=0.01) operative samples compared with low risk patients.

Conclusion The risk of post-operative CD recurrence may be predetermined at a pre-operative stage due to dysbiosis. The role of MAM as a tool to stratify risk requires further study. Drugs that modulate MAM may, in future, play a role in reducing post-operative recurrence.

Competing interests None declared.

PMO-231 ILEAL AND COLONIC MUCOSAL DENDRITIC CELL CYTOKINE PROFILES DIFFER AT REST AND AFTER IN VITRO BACTERIA AND PRO-BIOTIC CHALLENGE IN POSTOPERATIVE CROHN'S DISEASE PATIENTS

doi:10.1136/gutjnl-2012-302514b.231

[1,2]A U Murugananthan,* [2]D O Bernardo, [2]E R Mann, [1]C T Tee, [1]A L Hart, [1]N Arebi, [2]S C Knight, [2]H O Al-Hassi. *[1]Gastroenterology, St Mark's Hospital, London, UK; [2]Antigen Presentation Research Group, Imperial College, London, UK*

Introduction Postoperative Crohn's disease (CD) recurrence predominantly affects the ileal mucosa at the ileo-colonic anastomosis with the colonic side often spared. Altered immune responses to bacterial flora are thought to be a driving force in the pathogenesis of CD recurrence. Gut dendritic cells (DC) are key in the initiation of immune response, through cytokine production, when stimulated with bacterial antigens. We postulate that differences between ileal and colonic DC resting characteristics and functional responses may be responsible for the propensity of recurrence to occur at the ileal aspect of the anastomosis. We aimed to assess ongoing intracellular cytokine production in DC from ileal and colonic postoperative CD mucosa and assess their functional response to bacterial stimulation and modulation with probiotics.

Methods Paired ileal and colonic biopsies were taken from post-operative CD patients at colonoscopy (n=11). Lamina propria mononuclear cells were collected after collagenase digestion. DC intracellular cytokine responses (IL-2, IL-6, IL-17a, TGFβ and INFγ) were assessed in basal conditions and after culture with LPS and two probiotic bacterial strains Bifidobacterium Longum; Lactobacillus Casei (*B longum* and *L casei*) using multi-colour flow cytometry.

Results Unstimulated ileal DC showed higher levels of ongoing intracellular production of pro-inflammatory cytokines than unstimulated colonic DC: IL6 (34.21±12.80 vs 10.47±3.574 cells/υl [mean±SEM], p=0.037), IL17a (24.62±12.38 vs 14.94±9.865 cells/υl, p=0.05, n=5) and TGFβ (74.12±17.96 vs 32±16.27 cells/υl, p=0.031). Incubation with LPS resulted in higher DC intracellular cytokine levels of INFγ in ileal derived DC with a borderline p value (27.49±12.61 vs 0.39±0.391 cells/υl p=0.06) but not colonic derived DCs (19.55±10.12 vs 12.40±7.039, p=0.6). *L casei* incubation, however, led to a larger decrease in ongoing TGFβ (−42.35±16.02 vs 4.42±11.46 cells/υl p=0.023) and INFγ (−14.76 ±7.196 vs 20.33±10.16 cells/υl-, p=0.05) DC cytokine production in colonic tissue compared with ileal.

Conclusion Ileal mucosa DC demonstrate a cytokine profile implicating a Th17 response compared with colonic mucosa. Upon bacterial stimulation with LPS ileal mucosa demonstrate increased INFγ DC production compared with unstimulated DC. These results suggest a role of for a Th1/Th17 response in driving post-operative CD recurrence. The probiotics *L casei* and *B longum* failed to show significant effects in modulation of intracellular cytokine production in ileal DC.

Competing interests None declared.

PMO-232 ABNORMAL LIVER FUNCTION TEST IN PATIENTS WITH ULCERATIVE COLITIS: A RETROSPECTIVE STUDY

doi:10.1136/gutjnl-2012-302514b.232

A A Thi,* K Holbrook, R Makins. *Department of Gastroenterology, Cheltenham General Hospital, Cheltenham, UK*

Introduction The association between primary sclerosing cholangitis (PSC) and ulcerative colitis (UC) is well recognised. The prevalence of PSC in patients with UC has been reported widely and ranges from 2.4% to 7.5%. The mean annual incidence rates were between 0.9 and 1.3 cases per 100 000 person years. Patients with UC may frequently be found to have abnormal liver biochemistry (LFTs) for numerous reasons although PSC is uncommon. Given the known increased risk of colorectal cancer in patients with both UC and PSC as well as cholangiocarcinoma, early recognition of PSC is crucial.

Methods Aims: To identify known patients with UC from our clinic population who also had persistently elevated LFTs and to determine the extent to which the cause of the abnormal LFTs had been investigated.

Methods A representative sample of patients with UC was identified from those who had contacted the nurse led IBD telephone help line at Gloucestershire Hospitals NHS Foundation Trust during September and October 2010. UC diagnosis was based on histology proven on biopsies including colectomy. Abnormal LFTs were defined as a persistent elevation above the local laboratory upper

Gut: first published as 10.1136/gutjnl-2012-302514b.230 on 28 May 2012. Downloaded from http://gut.bmj.com/ on April 22, 2024 by guest. Protected by copyright.