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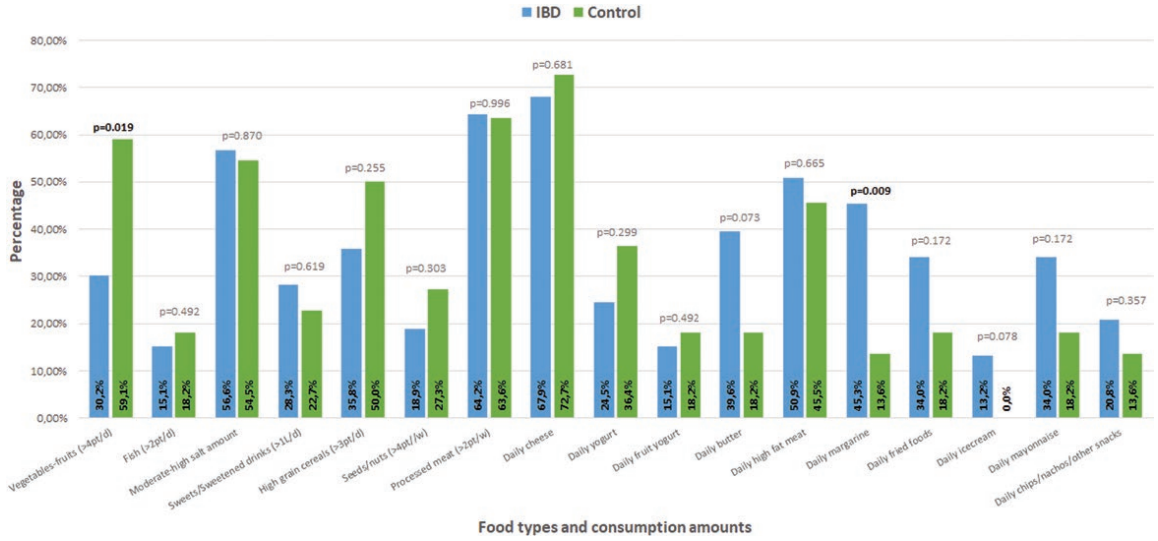
Abstract P027



Abstract P027 Table. A comparison between Romanian and Belgian patients—general characteristics

Variable	Romanian CD patients (N = 46)	Belgian CD patients (N = 43)	p
Males (%)	43.5%	32.6%	0.383
Median age (min ÷ max)	42 years (19 ÷ 67 years)	42 years (19 ÷ 73 years)	0.183
Median disease duration	3 years (0.5 ÷ 14 years)	10 years (1 ÷ 42 years)	<0.001
A1/A2/A3	0/73.9/26.1%	15/75/10%	0.005
L1/L2/L3	26.1/34.8/39.1%	30/12.5/57.5%	0.335
B1/B2/B3	45.4/27.3/27.3%	60/20/20%	0.208
Upper GI tract location (L4)	4.3%	11.4%	0.231
Perianal disease	13%	40%	0.006
Variable	Romanian UC patients (N = 30)	Belgian UC patients (N = 10)	p
Males (%)	66.7%	20%	0.025
Median age (min ÷ max)	41 years (28 ÷ 74 years)	43.5 years (26 ÷ 64 years)	0.569
Median disease duration	6 years (0.5 ÷ 15 years)	11.5 years (1 ÷ 16 years)	0.158
E1/E2/E3	6.7/53.3/40%	0/77.8/22.2%	0.588

Results: The diversity of TCR-α and -β in PBMCs was significantly lower in patients with IBD than that in controls (p = 0.00084 and 0.0013, respectively). Comparisons of TCR diversity in LPMCs and PBMCs between CD and UC showed that the diversity in LPMC was not affected by diseases, whereas that in PBMCs was significantly lower in CD than in UC (p = 0.045 and 0.049, respectively). Some TCR clones may have shown a specific increase or decrease in CD and UC and many clones were common to both LPMCs and PBMCs in the same patients.

Conclusion: The diversity of TCR clones in LPMCs and PBMCs in patients with IBD was significantly lower than that of PBMCs in controls. TCR diversity in PBMCs was particularly low in patients with CD.

P028

The anti-inflammatory effects of a poly-probiotic on the oral mucosa

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Background: Probiotics have previously showed evidence of being efficacious in inducing and maintaining remission in post-operative recurrent pouchitis. The potential mechanism of action of probiotics has been attributed to their ability to reduce pro-inflammatory cytokine production, both within the mucosal tissue and systemically. We present our study which characterises the anti-inflammatory effects of probiotics on the oral epithelium and in the treatment of oral lichen planus (OLP), a chronic inflammatory disease of the oral mucosa.

Methods: VSL#3 (VSL#3-ACTIVE batch 703093 Exp date 04/2019) is a highly concentrated (450 billion live bacteria per sachet) poly-probiotic food supplement that contains eight different strains of live bacteria. The mouth ordinary epithelium cell line (MOE-1a) was stimulated with VSL#3 plus or minus the pro-inflammatory bacteria

E. coli. The resultant effects on cytokine production and wound healing were measured using ELISA and live cell imaging. Wound closure was calculated using ImageJ software. OLP patients (n = 80) and healthy controls (n = 44) were recruited from UCLH Eastman Dental Hospital (Ethics 17/LO/0475) and saliva and blood samples tested for CXCL10 levels using an ELISA. OLP patients with active disease (n = 30) were recruited into a double-blind placebo-controlled proof-of-concept trial investigating the potential benefit of VSL#3 in the treatment of clinical symptoms (NCT03052179). Patients consumed two sachets twice daily for 30 days with a 30-day follow-up. Clinical questionnaires, saliva and peripheral blood were collected on days 0, 30 and 60. A daily quality of life and compliance diary was used by all participants.

Results: The addition of VSL#3 to MOE1a cells stimulated with *E. coli* resulted in a significant reduction in pro-inflammatory cytokine secretion and an acceleration in wound healing. OLP patients were found to have an elevation in the pro-inflammatory chemokine CXCL10 both locally (saliva) and systemically (serum) compared with healthy controls. Finally, the clinical trial demonstrated that VSL#3 was tolerated and safe for patients with OLP. Although there is no statistical evidence, descriptive results suggest that VSL#3 can confer some beneficial effects on patients with active OLP. We noted a reduction in the number of sites of disease activity and an improvement in quality of life in the VSL#3 group compared with placebo. Corticosteroid usage was also reduced in the VSL#3 group.

Conclusion: VSL#3 has the ability to improve oral epithelial wound healing and reduce pro-inflammatory cytokines secretion *in vitro*. In OLP, the consumption of VSL#3 seems to provide some clinical benefits, but due to the study size a more substantial multi-centre trial is necessary to confirm these observations.

P029

TRIM 21 protects against ulcerative colitis and colitic cancer via smad7 inhibition

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Background: Proteins of the tripartite motif-containing (TRIM) superfamily are critical in a variety of biological processes in either innate immunity or eliminating invading pathogens, by which had been implicated in pathogenesis of autoimmune diseases including inflammatory bowel diseases. The typical structure of TRIM proteins contains a RING motif in the N-terminal end, followed by a B-box motif, a coiled-coil domain and a B30.2/PRYSPRY region in the C-terminal end led to the regulation of TGF-β anti-inflammatory cytokines, by which TRIM21 has been reported to regulate IBD negatively through inhibiting Th1/Th17 cell differentiation.

Methods: Since antisense oligonucleotide targeting smad7 was withdrawn from clinical trial due to insufficient efficacy, in this study, we generated TRIM21 overexpressed cell lines to study the binding of TRIM21 to smad7 as well as the regulation of consequent TGF-β receptor.

Results: TRIM21 significantly binds to smad7 as well as repressed levels of TGF-b type I/II receptor. SBE-luc and 3TP-luc assay showed significantly decreased activities under TRIM21 + TGF-β. Since TRIM21 contains ubiquitin ligase, PRYSPRY, TRIM21 with TGF-β significantly decreased TGFRII via UPL. These *in vitro* evidences that TRIM21 significantly repressed TGF-β after binding smad7 were validated with DSS-induced colitis and colitic cancer model. TRIM21 was significantly decreased in DSS-induced ulcerative colitis, whereas ameliorated colitis showed significant restoration of TRIM21

Conclusion: Leading to conclusion that loss of TRIM21 led to significant bout of IBD.

P030

Dynamics of intestinal inflammation and microbial dysbiosis in pregnant women with IBD and their infants

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Background: IBD often affects women during their reproductive years; however, the effect of pregnancy on disease course remains poorly understood. We aimed to assess intestinal inflammation in IBD patients compared with controls as measured by faecal calprotectin (FC). We also investigated whether maternal IBD diagnosis was associated with altered FC in the offspring and if there were particular bacterial taxa that correlated with FC levels.

Methods: Pregnant women with or without IBD and their infants were prospectively enrolled in the MECONIUM study during 2015–2018 years. FC levels at each trimester of pregnancy and in babies throughout the first 3 years of life were measured using a quantitative enzyme immunoassay (CALPRO AS, Norway). Multivariate regression analysis was applied to investigate FC levels. Stool microbiota composition in the maternal and baby stool was assessed using 16s rRNA sequencing.

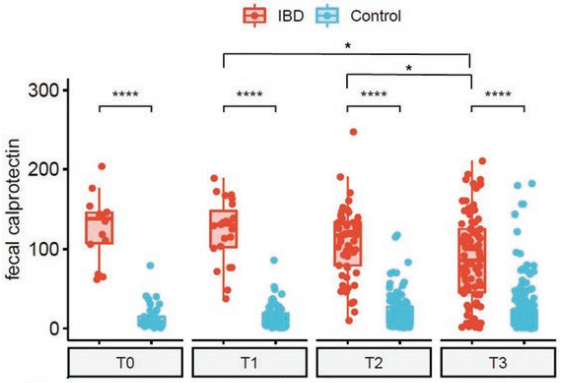

Figure 1. Fecal calprotectin concentrations of pregnant women according to disease status and gestational periods