

Table 1 PTU-012 Gene expression of three cytokines differentially expressed at colonoscopy and sigmoidoscopy

Gene	Expression ratio sigmoidoscopy colonoscopy	Expression at colonoscopy		
		'Healthy'	'Polyps'	UC
IL1B	4.26; 1.40–10.64 **	0.91; 0.57–1.31	0.87; 0.44–1.36	1.21; 0.33–2.06 ‡
IL8	4.65; 1.00–14.41 **	0.70; 0.27–1.40	0.71; 0.35–1.67	1.20; 0.32–4.56 ‡
CCL4	1.93; 0.90–4.19**	0.05; 0.39–0.60	0.17; 0.49–0.83	0.20; 0.31–0.84

Results are presented as medians' range.** $p < 0.001$. ‡Sig dif from 'healthy'

remains a lack of data in relation to the healthy human colon. Array analyses by us, comparing paired samples from 28 patients taken at colonoscopy and sigmoidoscopy, have highlighted innate immune responses to be of particular interest. The aim of this study was to assess, in a larger cohort from the same intervention study, differences in IL1 β , IL8 and CCL4 (MIP1 β) expression between the two bowel preparation methods, where there are differences in bacterial exposure.

Methods Normal mucosa from three groups of patients with: (1) no apparent colonic disease (healthy, $n=60$), (2) previous polyps ($n=73$) or (3) ulcerative colitis in remission ($n=37$) was investigated as part of The FishGastro intervention study.² Biopsy samples taken 25 cm from the anal verge at both colonoscopy and sigmoidoscopy were compared. Gene expression was analysed by RT-PCR and normalised to POL2 expression. Cytokine profiles of additional biopsies were measured using Luminex technology.³ Data were analysed by ANOVA.

Results Gene expression of IL1, IL8 and CCL4 were higher in samples taken at sigmoidoscopy than in those taken at colonoscopy (table 1). Levels were comparable for control and polyps patients. UC patients had elevated expression of cytokines in colonoscopy samples but not in sigmoidoscopy biopsies. Protein expression patterns were similar.

Conclusion Immunomodulatory cytokines are higher in healthy colonic mucosa biopsied at sigmoidoscopy, which has recently been exposed to a 'normal' bacterial population and associated metabolites, as compared to samples taken by colonoscopy where the large bowel has been essentially empty for approx. 24h. These data support the concept that immunoregulatory signalling from the lumen occurs in the absence of any breach in the integrity of the epithelial layer and are consistent with results reported previously comparing germ-free and conventionally housed mice¹.

Competing interests None.

Keywords colonoscopy, cytokines, gene expression profiling, sigmoidoscopy, signalling.

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PTU-012

CYTOKINE EXPRESSION IN HEALTHY MUCOSAL COLONIC BIOPSIES TAKEN AT COLONOSCOPY COMPARED TO SIGMOIDOSCOPY INDICATE DIFFERENCES IN BACTERIAL SIGNALLING

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Introduction The role of the commensal flora in the maintenance of a healthy mucosa is now recognized¹ but there