

PTH-064

DENDRITIC CELL HOMING AND IMMUNE CELL FUNCTION IN CROHN'S ANAL FISTULAE

doi:10.1136/gut.2011.239301.465

P Tozer,^{1,2,*} O H Al-Hassi,² N Rayment,³ D Bernardo Ordiz,² A Murguranathan,^{1,2} N Daulatzai,^{1,4} T Ansari,⁵ K Whelan,³ R K Phillips,^{1,4} S Knight,² A L Hart^{1,2} ¹St Mark's Hospital, London, UK; ²APRG, Imperial College, London, UK; ³Nutrition and Dietetics, Kings College, London, UK; ⁴Imperial College, London, UK; ⁵NPIMR, London, UK

Introduction The aetiology of perianal fistulating Crohn's disease remains obscure but genetic, microbiological and immunological factors play a role. Dendritic cells (DC) are antigen presenting cells which sample mucosal-associated bacteria and migrate to lymph nodes to stimulate immune response via T cells. DC express homing markers to imprint on T cells and direct them to organs, for example, skin (cutaneous lymphocyte-associated antigen, CLA) and gut ($\alpha 4\beta 7$ integrin). In IBD DC express more Toll-like receptors which recognise microbes and increase inflammatory cytokine levels.

Aim to characterise immune cell composition and cytokine milieu of Crohn's and idiopathic fistulae including DC phenotype and homing.

Methods Biopsy samples were taken from Crohn's and idiopathic anal fistulae. After overnight incubation (medium, 37°C, 5% CO₂), 'walk out' cells isolated from the supernatant were analysed by flow cytometer. DC were identified and assessed for phenotype (myeloid or plasmacytoid) and homing molecules (CLA and $\alpha 4\beta 7$). TH1/2 and 17 cytokine profile was determined using Multiplex analysis.

Results Tract samples from 15 Crohn's (CPD) and 12 idiopathic (IPD) anal fistula patients and rectal samples from 10 normal control patients were taken for immunological analysis.

DC in CPD had significantly reduced levels of $\alpha 4\beta 7$ and CLA compared with IPD. There was no significant difference in proportions of either myeloid or plasmacytoid DC, or of CD14, CD16, CD19 or CD3 cells. Crohn's fistula tracts showed lower levels of CD65 than idiopathic fistula tracts ($p=0.04$).

Levels of IL-2, IL-4, IL-6, IL-10, TNF and IFN γ were similar in Crohn's and idiopathic fistulae and rectum of controls.

Table 1 PTH-064

	Idiopathic anal fistula (IPD) (n=12)	Crohn's anal fistula (CPD) (n=15)	Controls (n=10)
Age	46.5	32	56.5
Gender (M:F)	9:3	8:7	5:5
Duration of perianal disease (years)	3.5	5.5	–
Duration of luminal CD (years)	–	12	–
Location of luminal CD	–	5xL2p 4xL3p 2xp	–
Stoma	0	3	0
Drugs	–	2× oral steroids 5× thiopurines	–
Smoker	3	5	2

IL-17a levels were higher in CPD than normal rectum and IPD ($p=0.04$).

Conclusion Similarities between Crohn's and idiopathic anal fistula immune cells and cytokines may suggest that in a formed tract, the immunological processes in both are similar. However, higher IL-17 levels may indicate strategies for diagnosis and treatment of Crohn's anal fistulae. Aberrant expression of homing molecules on DC in Crohn's perianal fistulae suggests a 'non-directed' immune response which may contribute to the pathophysiology.

Competing interests None.

Keywords anal fistula, Crohn's disease, cytokines, immunology.