PTH-065

THE RECTAL MUCOSA IN PATIENTS WITH CROHN'S ANAL FISTULAE HARBOURS LOWER NUMBERS OF BIFIDOBACTERIA, AND THE FISTULA TRACTS ARE DEVOID OF A MICROBIAL ECOSYSTEM

doi:10.1136/gut.2011.239301.466

P Tozer,^{1,2,*} N Rayment,³ O H Al-Hassi,² A Murguranathan,^{1,2} N Daulatzai,^{1,4} S C Knight,² R K Phillips,^{1,4} K Whelan,³ 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

Introduction The aetiology of Crohn's perianal fistulae remains obscure but genetic, microbial and immune factors play a role.

For example, faecal diversion and antimicrobial treatment are partially efficacious in some Crohn's anal fistulae. There is evidence of reduced mucosal clostridia and *Faecalibacterium prausnitzii* and increased enterobacteria (eg, *Escherichia coli*) in active Crohn's disease but the relationship between rectal microbiota and anal fistulae has not been well documented.

Aim To characterise the fistula tract and rectal microbiota in patients with Crohn's and idiopathic anal fistulae using fluorescent in situ hybridisation (FISH).

Methods Fistula and/or rectal biopsies were taken from patients with Crohn's or idiopathic anal fistulae and isolated luminal Crohn's disease by a standardised technique, washed in sterile phosphate buffered saline and snap frozen in liquid nitrogen. Frozen sections were hybridised with oligonucleotide probes targeting the microbial 16S rRNA. The hybridised mucosa associated microbiota were identified and quantified.

Results 36 patients with anal fistulae (18 Crohn's (CPD), 18 idiopathic (IPD)) had rectal and fistula tract biopsies taken. 12 patients with only luminal Crohn's disease (no perianal disease (CD)) had rectal samples taken.

None of the fistula tract biopsies from either CPD or IPD patients contained any mucosa-associated bacteria, with the exception of one patient (IPD). This finding was identified using FISH, and confirmed using gram staining and scanning electron microscopy. There were more rectal bifidobacteria in patients with IPD than CPD and CD ($p=0.02$). Rectal microbiota were otherwise similar across the three groups. In all Crohn's patients (CPD and CD), a longer duration of disease was associated with a higher number of Bacteroides ($p=0.02$).

Conclusion The study findings suggest that there is altered rectal microbiota (decreased bifidobacteria) in patients with Crohn's anal fistulae, but that the fistula tracts themselves lack mucosa-associated microbiota which may have relevance for the presumed microbial-immune interaction thought to drive inflammation.

Competing interests None.

Keywords anal fistula, Crohn's disease, microbiota.

Table 1 PTH-065

	Idiopathic anal fistula (IPD) (n=18)	Crohn's anal fistula (CPD) (n=18)	Luminal Crohn's disease (CD) (n=12)
Age	46.5	31.5	32
Gender (M:F)	12:6	8:10	4:8
Duration of fistula (years)	3.4	5.9	—
Duration of Crohn's disease (years)	—	12	11
Location of Crohn's disease (years)	—	3xL1p 6xL2p 6xL3p 3xp	5xL1 1xL2 6xL3
Stoma	0	2	3
Immunomodulators	—	3x oral steroids 7x thiopurines	3x thiopurines 1x methotrexate
Smoker	6	5	2