pH5 + 1mM NaNO₂ (high nitrosative stress), 1mM H₂O₂ pH7 (high oxidative stress) and 1mM methyl viologen (MV) pH7 (super oxidative stress). Plates were incubated overnight at 37°C. **Results** All four CD AIEC showed tolerance to low pH, high nitrosative and oxidative stress mimicking the intra-phagolysosome environment. CD AIEC demonstrated greater tolerance to growth at pH5. Compared to growth seen on LB agar pH7 (100%), LF82 showed 99.3 ± 22.2% growth at pH5 [mean ± SD]. Likewise, growth of HM427 (104.4 ± 15.2%), HM605 (81.1 ± 15.5%) and HM615 (94.2 ± 9.4%) was also seen at pH5. Conversely, growth seen for laboratory strains was only 64.2 ± 9.9% for XL-1 and 61.3 ± 8.7% for EPI300; N=4 expts, n = 3 replicates (P < 0.01; ANOVA). Most remarkable was tolerance on super oxidative LB agar containing 1mM MV, with LF82 showing growth at 95.9 ± 11.5%, HM427 81.3 ± 17.9%, HM615 102.4 ± 14.3% and HM605 86.1 ± 13.5% vs. that seen on standard LB agar (100%). Non-AIEC strains showed little tolerance to all stress conditions tested (in 1mM MV; XL-1, no growth; EPI300, 1.8 ± 1.2% growth vs. LB agar alone, 100%); (P < 0.0001). The four CD AIEC were also observed to grow better after 8h in a low nutrient M9 medium supplemented 0.1% casamino acids (pH4) than the laboratory *E. coli* tested and 3 additional *E. coli* isolates from healthy controls (ECOR1, ECOR35, ECOR51); N = 1, n = 3.

Conclusion Crohn's AIEC, unlike non-AIEC *E. coli*, tolerate low nutrient, low pH and high chemical stress conditions that mimic the macrophage phagolysosome environment.

REFERENCES

- 1 Bringer MA, et al. *Cell. Microbiol* 2006;8:471–84.
- 2 Subramanian S, et al. *Antimicrob. Agents Chemother* 2008;52:427–34.

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PTU-063

A PROSPECTIVE AUDIT OF THE USE OF TACROLIMUS IN PATIENTS WITH REFRACTORY SUBACUTE ULCERATIVE COLITIS IN A DISTRICT GENERAL HOSPITAL

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Introduction Tacrolimus appears to be effective short-term treatment for patients with refractory ulcerative colitis (UC)¹ and is recommended by NICE² in suitable patients. We report our experience in a district general hospital out-patient setting of tacrolimus in patients with steroid refractory subacute UC whom either failed, or were intolerant to thiopurines and as an alternative to surgery. In England, Wales and Northern Ireland infliximab may no longer be used to treat patients with sub-acute UC.³ **Methods** A prospective quality and safety assurance audit was undertaken of all patients with UC treated with tacrolimus from January 2010 until January 2014. Patients not responding to or intolerant of conventional therapy met with the consultant

gastroenterologist (AWH). They were offered treatment with tacrolimus, provided with written drug information or referral for surgical management. All agreed to start treatment with tacrolimus (Prograf) 0.1 mg/kg/day in 2 divided doses and were monitored according to local protocol with FBC, UandEs and serum trough levels at weeks 2, 4 and 3 monthly thereafter. The dose of tacrolimus was titrated aiming for serum trough levels between 5–20 ng/mL. Clinical response was assessed by AWH in clinic.

Results Seventeen patients (8 female; mean age 38 [range 19–86]) were treated with tacrolimus. Eleven patients (65%) had a clinical response (median treatment duration 12 [range 2–192] weeks). Four of these (45%) patients developed intolerance to tacrolimus (renal impairment n = 2; tremor n = 1; paraesthesia n = 1) and stopped treatment. Seven patients continued on tacrolimus with clinical response and without side effects. Of the 10 patients whom either failed to respond or were intolerant of tacrolimus, 7 underwent colectomy. Of the remaining 3 patients, 1 declined surgery and 2 patients have responded to treatment with methotrexate.

Conclusion Our experience supports the use of tacrolimus in patients with subacute UC refractory to conventional treatments as an alternative to elective surgery as infliximab is no longer recommended in these circumstances.³ However only 7 of 17 (41%) patients had a clinical response and tolerated tacrolimus. Close monitoring of renal function and serum trough levels is required. The long-term efficacy and safety of tacrolimus remains unclear.

REFERENCES

- 1 Baumgart DC, MacDonald JK, Feagan B. Tacrolimus (FK506) for induction of remission in refractory ulcerative colitis. *Cochrane Database of Systematic Reviews* 2008, Issue 3. Art. No.: CD007216. DOI: 10.1002/14651858. CD007216
- 2 National Institute for Health and Care Excellence Ulcerative colitis: management in adults, children and young people CG 2013;166
- 3 National Institute for Health and Care Excellence Infliximab for subacute manifestations of ulcerative colitis TA 2008;140

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PTU-064

INCREASED MUCOSAL EXPRESSION OF INSOLUBLE KERATINS 8, 18 AND 19 IN LONG-STANDING ULCERATIVE COLITIS IN COMPARISON TO RECENT-ONSET ULCERATIVE COLITIS: VALIDATION OF MASS SPECTROMETRY DATA

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Introduction Intermediate filaments (IF) are one of the main components of the human cell cytoskeleton with keratins (K) being the largest component. K8, K18 and K19 constitute the main keratins in the intestinal epithelial cells. Keratin alteration may play a role in the pathophysiology of ulcerative colitis (UC). K8 -/- mice develop chronic colitis. K8 and K18 play a role in TNF-α induced-apoptosis. We have previously shown increased expression of insoluble K8, K18 and K19 in long-standing UC relative to recent-onset ulcerative colitis (≤5 years) using mass spectrometry (MS) in the IF fraction of pooled patient samples. The aim of this study was to use antibody-based relative quantification of K8, K18, K19 in individual patient samples to validate MS results and describe variation in expression across the cohort.