

Abstract PWE-071 Table 1 demonstrates the aetiology and outcome of Anti-TNF switching.

Reason for stopping ADA	N	Effect of swapping	N on ongoing IFX therapy	Responders' median (range) t on IFX (months)
Primary failure	9	6/9 (66%) Achieved response 3/9 (33%) No response	5/9	8 (3–55)
Secondary loss of response	14	12/14 (86%) Re-captured response 2/14 (14%) Not recaptured response	11/14	24 (4–39)
Intolerance	3	2/3 (66%) Maintained response 1/3 (33%) Lost response	2/3	6 (2–9)
Other	2	2/2 (100%) Maintained response	1/2	13
Total	28	22/28 (79%) Positive outcome	19/28 (68%)	13 (2–55)

(11%) on concurrent mesalazine and 1/19 (5%) are on concurrent steroids.

3 people discontinued IFX following an initial response due to hypersensitivity reaction (2/3) and due to conversion back to ADA due to patient preference (1/3).

Conclusion Using ADA as first-line and IFX second-line for ADA failures is a successful and safe strategy in patients with moderate-to-severe CD.

REFERENCE

Sandborn WJ. *Ann Intern Med.* Jun 19;2007;146(12):829–38

Disclosure of Interest E. Russo Grant/research support from: GSK, R. Hackett: None Declared, S. Campbell Grant/research support from: MSD, Abbvie, J. Lindsay Grant/research support from: MSD, Abbvie, Consultant for: MSD, Abbvie, Tadeka, P. Irving Consultant for: Abbvie, MSD, T. Orchard Grant/research support from: Johnson and Johnson, Consultant for: Abbvie, Ferring, MSD, Takeda, Vifor, Warner Chilcott.

PWE-072 THE EFFECTS OF ANTI-TNF THERAPY ON GROWTH IN IBD IN SCOTTISH CHILDREN

¹FL Cameron*, ²M Al-Towati, ³WM Bisset, ²SF Ahmed, ¹DC Wilson, ⁴RK Russell. ¹*Child Life and Health, University of Edinburgh, Edinburgh, UK;* ²*Developmental Endocrinology Research Group, University of Glasgow, Glasgow, UK;* ³*Paediatric Gastroenterology, Royal Aberdeen Children's Hospital, Aberdeen, UK;* ⁴*Paediatric Gastroenterology, Royal Hospital for Sick Children, Glasgow, UK*

10.1136/gutjnl-2014-307263.332

Introduction Growth failure is well-recognised in paediatric IBD (PIBD; <18 years). Evidence (usually case series from single/multiple centres) shows anti-TNF therapies improve linear growth. We aimed to examine if anti-TNF therapy improves growth in a PIBD population-based cohort.

Methods Retrospective review of all children receiving anti-TNF (infliximab (IFX) and adalimumab (ADA)) from 2000–2012 in paediatric services in Scotland. Height (Ht), weight and Tanner stage were collected at 3 times: 12 months before anti-TNF (T-12), start of anti-TNF (T0) and 12 (T+12) months after anti-TNF. Ht and growth were converted into standard deviation scores (SDS) and height velocity (HV, cm/year) were calculated.

Results 97/201 PIBD cases (3ADA, 94 IFX) had 12 month growth data, 58 (59%) males and 90 (93%) Crohn's disease (CD); 84 (87%) received immunomodulators and 47 (48%) corticosteroids at T0. Median age at diagnosis was 10.3 years. In IFX treated, mean Ht SDS T-12 was -0.67 +/-1.1; improvement was then seen from T0 -0.82 +/-1.1 to T+12 -0.74 +/-1.1 (p = 0.031). Mean ΔHtSDS improved from -0.16 +/-0.38 at T0 to 0.08 +/- 0.36 at T+12 (p < 0.001) with HV improving from

3.9 cm/yr +/-2.5 at T0 to 5.0 cm/yr +/-2.9 (p = 0.003). 56 (60%) entered remission, HtSDS improved from -0.77 +/- 1.1 at T0 to -0.56 (+/-1.1) at T+12 (p = 0.0004). ΔHtSDS improved from T0 -0.14 (+/-0.04) to 0.21 (+/-0.04) at T+12 (p < 0.001) and HV from 4.0 cm/yr (+/-2.3) at T0 to 5.6cm/yr (+/-2.9) at T12 (p = 0.003).

44/94 IFX (48%) were Tanner stage 1–3; 40 CD. Mean HtSDS decreased from -1.0 (+/- 1.1) at T-12 to -1.2 (+/-1.3) at T+12 but, HV 3.6 cm/yr (+/-2.1) at T0 improved to 5.5cm/yr (+/-2.7) at T12 (p < 0.001). In Tanner 4and5, no change in HtSDS or ΔHtSDS was seen.

61 (65%) had disease for ≥2 years at start of IFX, HtSDS improved from -0.77 +/-1.2 at T0 to -0.65 +/-1.2 at T+12 (p = 0.007) whilst disease <2 years (n = 33) had no change; HtSDS -0.93 +/- 0.97 at T0 and -0.92 +/-0.89 at T+12 (p = 0.89). Improvement was seen in height velocity in ≥ 2; years HV 4.1 +/-2.5 at T0 and 5.0 +/-2.9 at T+12 (p = 0.039) compared to HV <2 years 3.6 +/-2.3 at T0 and 4.8 +/-3.0 at T+12 (p = 0.08). Greater improvement in ΔHtSDS in ≥2 yrs; ΔHtSDS at T0 -0.12 +/-0.35 improved to 0.12 +/-0.33 at T+12 (p < 0.001) vs. -0.22 +/-0.43 at T0 to 0.16 +/-0.4 (p = 0.018) for <2 yrs.

In UC (n = 7) no change was seen in ΔHtSDS or HV at T-12, T0 or T+12 (p 0 >0.05).

Conclusion Improvements in HtSDS and height velocity at 12 months were seen in the whole cohort. In Tanner 1–3 improvement was only seen in HV after 12 months with no improvement in Ht sSDS. No improvement in height noted in UC. Further follow up will determine if growth improvement is maintained or further improves.

Disclosure of Interest None Declared.

PWE-073 ARE WE USING ANTI-TNF EARLY ENOUGH IN CROHN'S DISEASE IN THE UK?

H Steed*, A Rowlinson, F Leslie. *Gastroenterology, University Hospital North Staffordshire, Stoke-on-Trent, UK*

10.1136/gutjnl-2014-307263.333

Introduction Anti-TNF (a-TNF) prescription is tightly controlled by NICE guidelines and reserved for severe or resistant Crohn's disease in the UK, with annual review of ongoing prescription required and discontinuation for patients in remission.

Methods Retrospective review of 135 patients with Crohn's disease who have received anti-TNF at UHNS.

Results 135 patients received a-TNF; 51 male, 84 female with a mean age of 29 at diagnosis. 28% of patients smoke. Table 1 shows most advanced stage of disease at diagnosis and when a-TNF started.

Abstract PWE-073 Table 1

	At diagnosis	When a-TNF started
Inflammatory	75	40
Fibrotic/Stricture	25	51
Fistula	5	13
Perianal only	5	7
Inflammatory+perianal	10	11
Stricture+perianal	0	7
Unknown/unclear	16	6

58% of patients had already had surgery for CD prior to commencement of a-TNF, 13% had major abdominal surgery after a-TNF. The number of patients with stricturing disease had doubled from diagnosis to the time of a-TNF commencement. 7/23 (30%) required surgery in less than 6 months of commencement of anti-TNF, 10/23 (43%) in under 12 months.

Conclusion a-TNF is being commenced late in the disease process, with significant accumulated damage and 73% of ongoing surgical requirements occurring in less than 1 year after commencing a-TNF. This may be a reflection of current prescription prohibition. What remains to be demonstrated is whether earlier intervention could have prevented the large amount of intra-abdominal surgery in these high risk cohorts.

Disclosure of Interest None Declared.

PWE-074 TISSUE INHIBITOR OF METALLOPROTEINASE (TIMP)-3 REDUCES PRO-INFLAMMATORY CYTOKINE PRODUCTION BY ULCERATIVE COLITIS MUCOSA CULTURED EX VIVO

IM Bell*, F Ammoscato, P Biancheri, R Curciarello, T Macdonald. *CIID, Blizard Institute, Barts and The London School of Medicine and Dentistry, London, UK*

10.1136/gutjnl-2014-307263.334

Introduction Interleukin (IL)-1b, IL-6, IL-8 and tumour necrosis factor (TNF)-a, are elevated in the inflamed mucosa of patients with ulcerative colitis and play a central role in driving the pro-inflammatory immune response in this condition. TNF-a is cleaved from the cell surface by TNF-a converting enzyme (TACE), which is inhibited by tissue inhibitor of Metalloproteinase (TIMP)-3. We studied whether the addition of TIMP-3 to inflamed colonic biopsies from ulcerative colitis patients reduced the release of the pro-inflammatory cytokines TNF-a, IL-1b, IL-6 and IL-8.

Methods Colonic biopsies were obtained from macroscopically inflamed areas of 4 patients with ulcerative colitis undergoing colonoscopy for a disease flare. Biopsies were then cultured *ex vivo* for 24 h in 300 ul of serum free HL-1 medium in the absence or presence of recombinant human TIMP-3 (100 ng/ml). The concentration of TNF-a, IL-1 β , IL-6 and IL-8 were measured in culture supernatants by ELISA.

Results Culture with TIMP-3 significantly reduced TNF-a production by inflamed ulcerative colitis biopsies cultured *ex vivo* (from 1365 ug/ml in the absence of TIMP-3 to 45 ug/ml after TIMP-3 addition). Furthermore, the addition of TIMP-3 significantly reduced IL-1b production by inflamed ulcerative colitis biopsies (from 776 to 261 ug/ml). There was a trend in the reduction of IL-6 (from 3018 to 2702 ug/ml), which did not reach statistic significance, and no significant change in IL-8 production (from 30812 to 29114.5 ug/ml).

Conclusion TIMP-3 administration not only causes a reduction in TNF-a via TACE inhibition but also IL-1 β . This raises the possibility of its use therapeutically in the treatment of ulcerative colitis.

Disclosure of Interest None Declared.

PWE-075 ANTI-TNF THERAPY REDUCES IONISING RADIATION EXPOSURE IN PATIENTS WITH ULCERATIVE COLITIS

D Aggarwal, JK Limdi*. *Gastroenterology, Pennine Acute Hospitals NHS Trust, Manchester, UK*

10.1136/gutjnl-2014-307263.335

Introduction Patients with Ulcerative Colitis [UC] may be exposed to ionising radiation for evaluation of disease with inherent risks from protracted exposure. Meanwhile, bolder definitions of disease control with evolving treatment paradigms have led to earlier introduction of biological therapy. Our aim was to compare the effective radiation dose prior to and a year and 3 years after initiating anti-TNF therapy or corticosteroid in patients with UC.

Methods We performed a retrospective review of UC patients treated with anti-TNF therapy (infliximab or adalimumab) or corticosteroids at our institution from 2005 to 2013. Clinical data (demographics, disease characteristics, treatment) were obtained from case notes and electronic patient records. All instances of imaging in the previous year, 1 and 3 years after initiation of anti-TNF therapy were recorded. The effective and cumulative radiation doses were calculated from published tables [Royal College of Radiologists, UK].

Results We analysed 102 patients with ulcerative colitis (66 anti-TNF and 36 corticosteroid treated). In the anti-TNF group, 68% were males (median age 47 yrs; range 25–76; mean disease duration 9.5 yrs). Forty seven per cent had left sided disease [Montreal E2] and 55% had pancolitis [Montreal E3]. In the corticosteroid treated patients, 55% were males (median age 51 yrs; range 17–90; mean disease duration 7.7 yrs). Montreal classification of disease was E1 in 11%, E2 in 46% and E3 in 43% respectively.

The anti-TNF cohort had a significant reduction in the number of imaging studies (4.0 *vs.* 1.5, $p < 0.0001$) and cumulative radiation dose (4.1 *vs.* 1.1 mSv, $p < 0.0001$) a year after treatment. The corticosteroid group had no significant change in the number of imaging studies (1.9 *vs.* 1.3, $p = 0.1$ or cumulative radiation dose (3.2 *vs.* 2.0 mSv, $p = 0.5$).

After 3 years of anti-TNF ($n = 22$), there was a reduction in the cumulative radiation dose (1.6 *vs.* 1.0 mSv, $p = 0.3$) and number of imaging studies (2.7 *vs.* 1.9, $p = 0.3$). In the corticosteroid group, there was a reduction noted in the cumulative radiation dose (2.5 *vs.* 1.1 mSv, $p < 0.3$) and no change in the number of imaging studies (1.6 *vs.* 1.7, $p = 0.5$).

Linear regression analysis showed a decrease in cumulative radiation dose by 3.1 mSv (CI= -4.9 to +0.2, $p = 0.07$) and number of CT imaging scans by 1 (CI= +1.5 to -1.2, $p < 0.08$) in the anti-TNF group compared to the corticosteroid group within a year of therapy after adjusting for age, gender, disease duration, disease location and disease behaviour.

Conclusion Anti-TNF therapy is associated with a significant reduction in cumulative radiation dose and diagnostic imaging studies a year after anti-TNF therapy but not with corticosteroids. The decrease in radiation dose exposure in both groups was similar three years after treatment.

Disclosure of Interest None Declared.