However, it is largely unknown to which degree the abundance of *F. prausnitzii* correlates with the inflammatory activity, and few studies have addressed this from a longitudinal perspective.  

**Methods:** Faecal samples (n = 59) were collected subsequently every third month from CD patients (n = 9). A qPCR assay was applied to quantify the relative abundance of *F. prausnitzii* in relation to the total amount of bacteria. To assess the total capacity of gut microbiota to produce butyrate, we measured the gene copy numbers of the Butyryl-CoA: acetate-CoA transferase gene using qPCR. The concentration of faecal calprotectin (ELISA EK-CAL, Bühlmann Laboratories) was used as a proxy of the inflammatory activity.

**Results:** No significant correlations between *F. prausnitzii* or the Butyryl-CoA: acetate-CoA transferase gene and f-calprotectin were observed in the total sample set. By analysing alterations between consecutive samples, we observed a negative correlation between the abundance of *F. prausnitzii* and the concentration of f-calprotectin (Figure 1; R = 0.38; p = 0.01). The difference in abundance of *F. prausnitzii* between two subsequent samples accounted for 14% of f-calprotectin variation (R² = 0.14). There was no significant association between the microbiota’s total capacity to produce butyrate and f-calprotectin (R = 0.12; p = 0.42) when alterations between consecutive samples were assessed.

**Conclusions:** Temporal changes in the abundance of *F. prausnitzii* are inversely correlated to changes in f-calprotectin, indicating that *F. prausnitzii* may have an impact on the inflammatory activity in CD. Considering that the gene copy numbers of the Butyryl-CoA: acetate-CoA transferase gene did not correlate with inflammatory activity, we propose that *F. prausnitzii* may primarily inhibit inflammation by non-butyrate dependent mechanisms.

**References**


**P708**

**Home-based infusion therapy for biologic agent administration as a therapeutic option for patients with inflammatory bowel disease**

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**Background:** Chemo@Home is a home-based infusion service based in Western Australia. This study aims to assess the safety of Chemo@Home for infliximab and vedolizumab infusions in inflammatory bowel disease (IBD) patients, the cost of delivery and the level of patient satisfaction.

**Methods:** IBD patients receiving infliximab and vedolizumab with Chemo@Home were assessed and any adverse effects noted. The cost of infusion by Chemo@Home was compared with private hospital administration and the activity-based funding in public hospitals. A patient satisfaction questionnaire assessed overall experience, infusion time and attitudes towards safety and accessibility. Safety was noted, with infusion reactions classified as minor, moderate or severe and managed according to treatment protocols.

**Results:** This retrospective study evaluated 162 infliximab (29 patients, 19 patient-years) and 155 vedolizumab infusions (27 patients, 16 patient-years) with Chemo@Home from August 2014 to April 2017. There were six acute infusion reactions with infliximab (3.7%) in four patients. One of these was classified as a moderate reaction (0.62%) managed by IV hydrocortisone and an antihistamine, which resulted in the infusion not being completed. The rest were minor reactions and all infusions were completed. Three acute infusion reactions occurred with vedolizumab (1.9%) and all were minor with all infusions completed. There were no episodes of anaphylaxis, no reactions requiring a doctor to attend and no hospital transfers. The price per infusion by Chemo@Home ($400–$726AUS) was equivalent to the public ($527AUS) and overall cheaper than private hospitals ($316–$1793AUS). Patient satisfaction was higher with Chemo@Home compared with infusions in a private hospital (p < 0.0001), infusion times were shorter (p < 0.0001) with less parking issues (p < 0.0001) and work or family life disruption (p < 0.021). Analysis of the public hospital data is underway.

**Conclusions:** Chemo@Home is safe with acute infusion reaction rates similar to previous studies. Costs are comparable to, or better than, the public and private hospitals. The service offers greater convenience and patient satisfaction to IBD patients receiving infliximab and vedolizumab.

**P709**

**Is there a difference in adalimumab drug levels according to pen vs. syringe use: An international, multi-centre retrospective analysis**

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**Background:** Adalimumab is a monoclonal antibody that binds to TNFα. It is used in the treatment of inflammatory bowel disease, rheumatoid arthritis, psoriasis, and psoriatic arthritis. The 40 mg/0.8 ml syringe can be administered by a prescriber or a healthcare provider, whereas the pen may be self-administered by the patient.

**Objective:** To evaluate clinical and pharmacokinetic differences in adalimumab levels during self-administration by injection pen and syringe administration.

**Methods:** A retrospective database analysis was performed (n = 762 patients). Data were collected from a single center and a multi-center database. The primary outcome was the difference in mean adalimumab concentration between the injection pen and syringe groups.

**Results:** The mean adalimumab concentration at 0.12 hours post-dose was significantly higher in the injection pen group compared to the syringe group (p < 0.001). The difference in mean adalimumab concentration between the injection pen and syringe groups was 0.27 μg/ml (95% CI: 0.16–0.37 μg/ml). The mean time to peak concentration was also significantly lower in the injection pen group compared to the syringe group (p < 0.001).

**Conclusions:** Adalimumab levels were significantly higher and reached peak concentration faster with the injection pen compared to the syringe. This suggests that self-administration using the injection pen may be associated with improved adherence and therapeutic response in patients with inflammatory bowel disease.
Background: In an intensive pharmacokinetic study of adalimumab (ADA) in Crohn’s disease (CD), trough drug levels were significantly higher in syringe compared with pen users. Further data addressing the impact of delivery device on ADA drug level are lacking.

Methods: Retrospective observational study of adult CD patients receiving 40 mg ADA fortnightly (for >14 weeks) across five centres. Therapeutic drug monitoring (TDM) was performed with the following ELISA kits: Shikari (Matriks) at Alfred Health, St Vincent’s Hospital, Monash Health and 54% of samples from Liverpool Hospital, Australia; LIISA Tracker (Theradag) at CHU Saint-Etienne, France; Promonitor (Grifols) for 46% of samples from Liverpool Hospital. The first recorded drug level (independent of indication), markers of disease activity including Harvey Bradshaw Index (HBI), C-reactive protein (CRP) and faecal calprotectin (FCP), and patient/disease demographics were collected. Drug levels >4.9 μg/ml were considered therapeutic, active disease was defined as CRP >5 mg/l or FCP >150 μg/g.

Results: A total of 218 patients were included. 52% of patients were male, mean age 39 years, 60% received concomitant immunomodulation. Mean FCP was 283 μg/g and CRP 10.2 mg/l at TDM. Pens were used by 64% of the cohort. Syringe users had a higher albumin, lower HBI and higher rates of concomitant immunomodulation than pen users (40 vs. 38 g/l, p = 0.016; 2.2 vs. 3.4, p = 0.017; 71 vs. 54%, p = 0.014). No significant differences in disease activity (CRP or FCP), duration or patient demographics between delivery device were observed. Considering all patients, there was no difference in drug levels in pen vs. syringe (5.3 vs. 5.2 μg/ml, p = 0.442, Figure 1a). Furthermore, drug levels did not differ between pen vs. syringe when controlling for disease activity (CRP or FCP). On subgroup analyses by centre, syringe users at Alfred Health had significantly higher drug levels than pen users (6.1 vs. 4.5 μg/ml, p = 0.039; Figure 1b) and a greater proportion were therapeutic (75 vs. 44%, p = 0.045). In contrast, a higher proportion of pen users from CHU Saint-Etienne had therapeutic ADA level (79 vs. 42%, p = 0.027), yet no significant difference in absolute drug level (7.9 vs. 4.5 μg/ml, p = 0.119). No differences between delivery device were seen at the remaining sites.

![Figure 1. Drug level according to pen and syringe use at all participating sites (a) and at Alfred Health (b)]](image)

Conclusions: Drug delivery device does not appear to significantly affect ADA drug levels. Nevertheless, given site-specific differences between pen and syringe, further prospective controlled studies which include patient administration training are warranted.

References