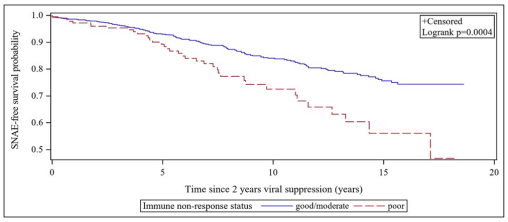
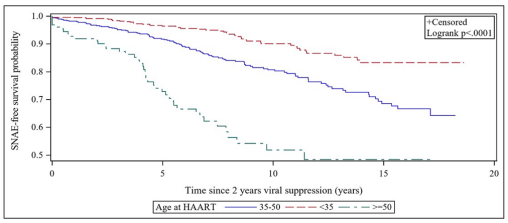
Figure 1. Kaplan-Meier curves for SNAE-free survival by immune response status, baseline age and baseline CD4 [a]





[a] Baseline was defined as time of ART initiation.

Disclosures. **All authors:** No reported disclosures.

2516. Persistence of Anti-HIV Antibodies in HIV-1-infected Patients on Combination Antiretroviral Therapy (cART) with Prolonged Viral Suppression

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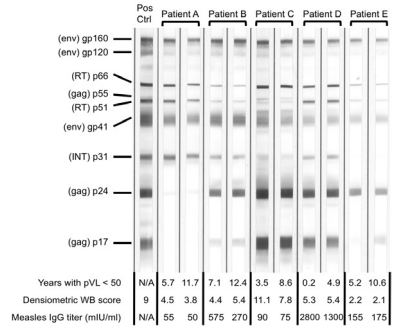
Background. Despite years of cART with sustained HIV-RNA plasma viral load (pVL) < 50 copies/mL, antibodies (Abs) to HIV-1 proteins persist. The reasons for this are unknown but may reflect long-lived B cell responses and/or persistence of antigen. To address which of these may be the case, we compared decay rates of anti-HIV Abs to those of anti-Measles Abs.

Methods. A cohort of 10 HIV-infected patients on cART with pVL < 50 (average 3 years, range 0–7.1 years) were studied. Baseline and 5-year follow-up serum were collected and assessed for anti-HIV-1 Abs via western blot (Cambridge Biotech WB kit), with additional densiometric analysis used for quantitative calculation of a western blot "score" that was normalized to control specimens. The kinetics of measles Abs titers over the same 5-year period were also analyzed by the quantitative Serion Measles IgG ELISA kit, given a history of prior vaccination in these participants. McNemar's and paired t-tests were used for analysis.

Results. All 10 patients exhibited persistence of anti-HIV-1 Abs at ≥ 5 year follow-up as determined by persistence of ≥ 2 diagnostic bands on WB ($P = 0.003$). The patterns for all 10 participants varied individually by patient with each exhibiting a unique profile (representative figure); 7/10 patients had WBs that could be analyzed quantitatively and showed no significant change over the study period (average baseline score 5.9 vs 5.3 at follow-up, $P = 0.26$). 7/9 patients had valid measles IgG measurements showing a consistent but nonsignificant decline over the same 5-year study period (measles titer 55–2800 mIU/mL at baseline vs 50–1300 mIU/mL at follow-up, $n = 9$, $P = 0.18$).

Conclusion. The mechanism leading to the persistence of anti-HIV-1 Abs in HIV-infected individuals with prolonged viral suppression has been unclear. The general decline in anti-Measles IgG titer over the 5-year observational period in 7/9 patients is likely to be explained by waning B cell-mediated humoral immunity in these vaccinated individuals and consistent with their lack of ongoing exposure to this pathogen. The persistence of anti-HIV-1 Abs over the same 5-year period, on the other hand, may indicate persistent HIV-1 viral protein production either from active reservoirs or by transcription of "defective" HIV-1 proviruses as recently reported.



Disclosures. **All authors:** No reported disclosures.

2517. Oral Fecal Microbiota Transplantation Increases Gut Microbiome Diversity and Alters the Microbiome Distribution in People with HIV

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Background. Reduced microbiota diversity (dysbiosis) in people with HIV (PWH) can damage the intestinal barrier and increase microbial translocation, resulting in inflammation, a driver of morbidity and mortality. We hypothesized that fecal microbiota transplants (FMT) would reverse dysbiosis in PWH.

Methods. We administered 6 weekly oral doses of a novel lyophilized fecal microbiota product from 2 healthy donors to 6 men who have sex with men with HIV on suppressive ART. Shotgun sequencing on stool before, after 6 weekly FMT, and 20 weeks after the last FMT (Weeks 0, 6 and 26), and from donors, was performed to determine bacterial community profiles. Biomarkers were measured by Luminex assays and ELISAs. All comparisons used Wilcoxon matched-pairs signed rank test.

Results. Median age at Week 0 was 41 years, CD4+ T-cell count 504 cells/mm^3, VL < 20 copies/mL. Mean α diversity by observed species index increased from Week 0 to 6 (61.2 to 70.2, P = 0.29; Figure 1) and decreased by Week 26 (70.2 to 52.2, P = 0.33) to be similar to the donors' (63.5, P = 0.86). Microbiome distribution by principal component analysis shifted toward the donors' distribution in most participants at Week 6 but shifted away by Week 26 (Figure 2). Biomarkers did not change significantly during the study. PID3, with HIV > 35 years, had chronic constipation that resolved with FMT with a large shift in distribution but recurred at Week 26. *Fusobacterium gonidiaformans*, *Porphyromonas somerae*, and *Haemophilus parainfluenzae* comprised 27% of his microbiome at Week 0 but 0.73% at Week 6; untyped Bacteroides comprised 35% at Week 6. I-FABP (6,899 to 2,736 pg/mL), sCD14 (1.67 to 1.31 µg/mL), IL-6 (1.51 to 1.13 pg/mL) and sTNFRII (11,659 to 8,300 pg/mL) levels decreased in PID3; Week 0 levels in PID3 were higher than in other recipients. No related serious adverse events occurred.

Conclusion. Weekly FMT resulted in increased intestinal microbiome α diversity and a shift in microbiome distribution in most participants. These changes did not persist after stopping FMT. PWH with long-term HIV and/or greater inflammation or gut damage may be most likely to benefit from FMT. The effects of recurrent FMT were transient, suggesting longer duration of treatment or intermittent FMT boosting may be required to maintain its benefits.

Figure 1. Alpha diversity

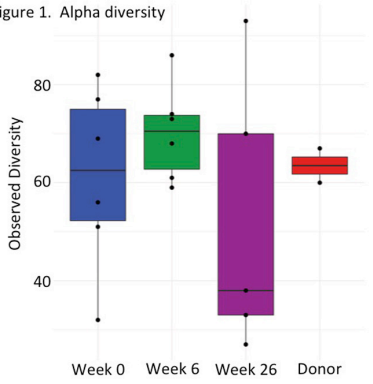
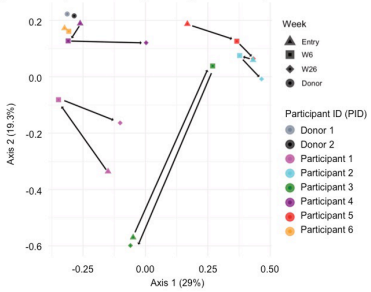


Figure 2. Bray Curtis Principal Component Analysis



Disclosures. **All authors:** No reported disclosures.

2518. Development And Characterization Of Human Microglial Models To Elucidate HIV Transmission Events And Pathogenesis

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