1768. Efficacy and Safety of Switching From Boosted-Protease Inhibitors (bPI) Plus Emtricitabine/Tenofovir Disoproxil Fumarate (F/TDF) Regimens to the Once Daily (QD), Single-Tablet Regimen (STR) of Darunavir/Cobicistat/Emtricitabine/Tenofovir Alafenamide (D/C/F/TAF) in Virologically Suppressed, HIV-1 Infectious Adults: Week 96 Results of the Phase 3, Randomized, Non-Inferiority EMERALD Trial

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Session: 214. Optimizing HIV Treatment Saturday, October 6, 2018: 10:30 AM

Background. The QD STR D/C/F/TAF 800/150/200/10 mg was noninferior to bPI + F/TDF at 48 weeks in EMERALD. Efficacy and safety of D/C/F/TAF through week 96 were presented.

Methods. EMERALD (NCT02269917) is a randomized, active-controlled, open-label, international, multicenter noninferiority trial. Virologically suppressed (VL<50 c/mL) for ≥50 weeks (90.7%, 692/763) were suppressed (VL<50 c/mL) at week 96. At week 96, a high percentage of patients in the D/C/F/TAF arm over 44 weeks D/C/F/TAF treatment. Many rebounders (14/24 and 2/8) had virologic rebound cumulative through week 96 in the D/C/F/TAF group improved from 62.5% to 77.6%, pre- to postimplementation (OR 4.7; 2.1–11.8), and had a median age of ≥50 years (95% CI 1.4–2.6), were currently employed (OR 4.1; 1.6–12.8), or age >50 years (OR 7.1; 2.1–10.8). The proportion of days covered (PDC; a measure used to calculate adherence to medication therapy) was used as explanatory variables in the model. The PDC was modified to account for the time to the last viral load in the measurement period, and was stratified into 4 categories: ≥90%, <90–80%, <80–50%, and <50%.

Results. With 765 persons enrolled, the proportion of those included in the analysis (n = 648) were non-Hispanic black (n = 286), male (n = 470), and had a median age of 49 years (IQR=38–56). Viral suppression improved 16.3% from 73.9% to 85.9%, pre- to postimplementation (P < 0.001). Persons who had higher modified PDC (OR 1.9 per category level; 95% CI 1.4–2.6), were currently employed (OR 4.1: 1.6–12.8), or age ≥50 years (OR 4.7: 2.1–10.8), had greater odds of being suppressed. Non-Hispanic black persons ≥50 years old were the only group improved from 62.5% to 77.6%, pre- to postimplementation (P < 0.001).

Conclusion. Collaborations between community pharmacists and HIV clinic providers that seek to identify and address HIV therapy-related problems can lead to improved viral suppression among persons living with HIV.

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1770. The Association of Unmet Needs With Subsequent Retention in Care and HIV Viral Suppression Among Hospitalized Patients With HIV Who Are Out of Care

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LV prophylaxis, including the loss of many sequencing, we identified bacterial community composition and after alignment to the on prophylaxis stopped LV and all patients received cefepime. Using metagenomic Saturday, October 6, 2018: 10:30 AM

Background. Unmet needs among hospitalized patients with HIV may prevent engagement in HIV care leading to worse clinical outcomes. Our aim is to examine the role of unmet subsistence needs (e.g., housing, transportation, food) and medical needs (e.g., mental health, substance abuse treatment) as barriers for retention in HIV care and viral load (VL) suppression.

Methods. We utilized data from the Mentor Approach for Promoting Patients’ Self-Care intervention study, the enrolled hospitalized HIV-patients at a large public ly funded hospital between 2010 and 2013, who were out-of-care. We examined the effect of unmet needs on retention in HIV care (attended HIV appointments within 0–30 days and 30–180 days) and viral load suppression, 6 months after discharge.

Results. A total of 417 participants were enrolled, 78% reported having 1 unmet need at baseline, most commonly dental care (55%), financial (43%), or housing needs (34%). Participants with unmet needs at baseline, compared with those with no needs, were more likely to be African American, have an existing HIV diagnosis, and be uninsured. Among participants who completed a baseline and 3-month survey (n = 320), 45% reported a need for dental care, 42% reported financial needs, and 32% reported housing needs that were unmet at either time point (Figure 1). Having a dental care need at baseline that was significantly associated with higher odds of VL improvements at 6-month follow-up (OR: 2.3; 95% CI: 1.04–4.50, P = 0.03) and higher odds for retention in care (OR: 2.06; 95% CI: 1.05–4.07, P = 0.04). An unmet need for transportation was associated with lower odds of retention in care (OR: 0.5; 95% CI: 0.34–0.94, P = 0.03), even after adjusting for other factors. Compared with participants with no need, those who reported ≥2 unmet subsistence needs were less likely to demonstrate viral load improvement (OR: 0.51; 95% CI: 0.28–0.92; P = 0.03) and to be retained in care (OR: 0.52; 95% CI: 0.28–0.95; P = 0.03).

Conclusion. An important and novel finding in our study is that the number of unmet subsistence needs had a significant effect on retention in care and VL suppression. Broader access to programs that can assist in meeting subsistence needs among hospitalized patients could have significant individual and public health benefits.

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1772. Vancomycin-Resistant Enterococcus Alter the Gastrointestinal Microbiome in Critically Ill Patients Edward Guarese, MD1; Monica Laskowska, MD1; Stephanie Stump, BS2; Dominique Menon, BS2; David Forrest, BS2; Jason Wang, BS2; Shilpa Sood, BS2; Monica Laszkowska, MD1; Monica Moscoso, MD2; Michael E. DeBakey Veterans Affairs Medical Center, Houston, Texas; University of Texas M.D. Anderson Cancer Center, Houston, Texas; Columbia University Medical Center, New York, New York; Columbia University Medical Center, New York, New York and Division of Digestive and Liver Diseases, Columbia University Medical Center, New York, New York

Background. In critically ill patients, rectal colonization with VRE is associated with an increased risk for nosocomial infection or death. In mice, fecal transplantation of Bilistia producta directly inhibits VRE growth and leads to clearance of VRE. We performed a prospective, intensive care unit (ICU)-based study to evaluate the relationship between B. producta and VRE. We also sought to determine the relationship between VRE, MRSA, and other common MDR bacteria.

Methods. This study included 97 adults newly admitted to the ICU between February 2015 and June 2016. Rectal swabs were obtained at time of ICU admis- sion and 72 hours later. VRE rectal colonization status was determined categoric- ally for each sample by culture on selective media. Specimens were also cultured for methicillin-resistant Staphylococcus aureus (MRSA) and multidrug-resistant Staphylococcus aureus (MDRSA) and MDR, defined as those with nonsusceptibility to 3 or more antibiotics classes. 16S rRNA gene sequencing was performed and the relative abundance was calculated for B. producta.

Results. Differentially abundant bacteria taxa between VRE positive and VRE negative specimens were assessed using linear discriminant analysis effect size (LDA) analysis.

Conclusion. Among the 97 patients, 7 (7.2%) were colonized with VRE at the time of ICU admission and 3 (3.3%) of the remaining patients became colonized 72 hours later. The microbiome composition differed significantly when accounting for VRE coloniza- tion status. The relative abundance of B. producta in VRE-positive samples was 140-fold higher in VRE-negative compared with VRE-positive samples (0.0012% vs. 8.48 × 10%", P = 0.03). On LeSite analysis, there was also significantly lower differential abundance of B. producta when VRE was present (LDA score 4.65). The presence of VRE in culture was significantly associated with the co-presence of MDRSA (23.5% co-colonized if VRE positive vs. 8.4% if VRE negative, P = 0.046) but not with the copresence of MDR Gram-negative bacteria (29.4% if cocolonized if VRE positive vs. 34.3% if VRE negative, P = 0.68).

Conclusion. In this ICU cohort, rectal colonization with VRE was inversely asso- ciated with the putatively protective organism B. producta. VRE was associated with rectal colonization with MDR Gram-negative bacteria. B. pro- ducta may have promise as a probiotic designed to prevent VRE colonization.

Disclosures. All authors: No reported disclosures.

1773. Impact of Antibiotics Used to Treat Community Acquired Pneumonia on the Gut Microbiome and Resistome in Healthy Volunteers Winston Anthony, BS1; Bin Wang, MS2; Candice Cass, AA1; Tiffany Hink, RA1; Kimberly Reske, MPH1; Sondra Seller, RA1; Erik R. Dubberke, MD, MSPH2; Carey Ann D. Burnham, PhD3; Gautam Dantas, PhD1; Jemima IL Kwen, DO, MSC1, MS2, Division of Biological and Biomedical Sciences, Washington University School of Medicine, St. Louis, Missouri, 1Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri, 2Washington University School of Medicine, St. Louis, Missouri, and 3Department of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, 1Department of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, 1Department of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, 1Washington University School of Medicine, St. Louis, Missouri, 1Washington University School of Medicine, St. Louis, Missouri, 1Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri, 1Washington University School of Medicine, St. Louis, Missouri, 1Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri, 1Washington University School of Medicine, St. Louis, Missouri, and 1Department of Pathology and Immunology, Washington University School of Medicine, St. Louis, Missouri

Background. Antibiotics (ABX) are frequently inappropriately used to treat non-bacterial causes of respiratory illnesses. The goal of this prospective cohort study was to characterize the impact of ABX used to treat community-acquired pneumonia (CAP) on the fecal microbiome and resistome in healthy volunteers (HV).

Methods. Twenty HVs were randomized to receive 5 days of levofloxacin (LV), azithromycin (AZ), cefpodoxime (CF), or AZ+CF. Stool was collected before, during, and after ABX, then underwent microbiologic culture and shotgun sequencing. DNA was extracted, then sequenced using the Illumina NextSeq platform. Relative abundance of bacterial taxa was estimated by MetaPhlAn and antibiotic resistance gene (ARG) composition by ShortBRED. Analysis was in R.

Results. The mean HV age was 37 (range 24–59) and 10 were female. Species diversity measured via Shannon Index and richness were significantly lower in samples taken from all HVs 3 days post-ABX (P < 0.01 for all). While nonmetric species, offset by increases in Bacteroides species. Unexpectedly, LV prophylaxis reduced the acquisition of VanA cluster of vancomycin resistance genes and did not increase acquisition of β-lactamase or fluoroquinolone (FQ) resistance gene families.

Conclusion. LV prophylaxis during leukemia treatment impacts predictable changes in gut bacterial communities but counter intuitively decreases antibiotic resistance in the gut microbiome reservoir. The reduction in VanA cluster of genes is likely due to depletion of Enterococaceae species via direct killing or loss of synergis-