**Background.** Key risk factors for tuberculosis (TB) in the United States include HIV-positive status, birth outside of the United States, incarceration and homelessness. Despite advances in antiretroviral therapy (ART) and declining HIV-TB comorbidity, TB remains an important opportunistic infection for all people living with HIV. Few studies exist which characterize HIV-TB co-infection in geographic populations within the United States. In this study, we cross-reference the HIV and TB registries in Arizona from 1993 through 2016 and compare features of HIV-TB co-infected individuals with HIV-negative TB cases and the broader population living with HIV.

**Methods.** Case records were identified by cross-referencing two separate databases maintained by the Arizona Department of Health Services, the Report of Verified Case of Tuberculosis (RVCT) and the Enhanced HIV/AIDS Reporting System (eHARS). Data were organized and analyzed in SAS and comparisons evaluated with Pearson chi-square test.

**Results.** A total of 44 unique cases of HIV-TB co-infection in Arizona were identified during the study period. Annual TB diagnoses in people living with HIV range from 25 (1995) to 7 (2006 and 2016). Significant differences in birth sex and age were observed in HIV-TB co-infections compared with HIV-negative TB cases. Homelessness was more common among people living with HIV (22.6% vs. 9.0%, χ² = 70.22, P < 0.001). TB disease manifestations differed (χ² = 159.76, P < 0.001) and HIV-positive individuals more frequently had concurrent pulmonary and extrapulmonary TB disease. Outcomes of TB treatment were less favorable among individuals living with HIV (χ² = 45.33, P < 0.001) as more HIV-positive patients failed to complete the full course of TB therapy or died before therapy completion. Finally, among all people living with HIV, our study revealed significant differences in race (χ² = 243.53, P < 0.001), country of birth (χ² = 441.88, P < 0.001), HIV transmission risk factors (χ² = 125.19, P < 0.001), and correctional status (χ² = 347.90, P < 0.001) for those who had a TB diagnosis.

**Conclusion.** Our study reveals important trends in HIV-TB comorbidity in Arizona and may inform public health strategies for addressing TB and its burden among people living with HIV.

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

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**2264.** The Burden of Respiratory Viral Illness in HIV-Infected Patients

**Session:** 242. HIV: Opportunistic Infections and other Infectious Complications

**Saturday, October 6, 2018: 12:30 PM**

**Background.** Among individuals living with human immunodeficiency virus (HIV), pulmonary complications are the most frequent cause of morbidity and mortality. Bacterial and viral pathogens are well-described etiologies of lung disease, the role of respiratory viruses remains poorly understood. We sought to describe the burden of respiratory viral illness in HIV-infected inpatients admitted to our tertiary care center.

**Methods.** All HIV-infected inpatients from August 2015 to March 2018 were approached if they presented with respiratory symptoms, defined as cough, dyspnea, sore throat, rhinorrhea, wheezing, or stridor. Eighty patients were enrolled. After obtaining informed consent, nasopharyngeal swabs and blood were collected. If the subject underwent bronchoscopy per the treating physician, ex vivo bronchoalveolar lavage (BAL) sample was collected. Demographic and clinical data were recorded for each subject. Multiplex PCR testing of all respiratory samples was performed.

**Results.** Of the 70 HIV-infected patients that have undergone complete analysis, 23 (33%) tested positive for respiratory viruses. Of these, 11 (48%) were positive for rhinovirus, 3 were positive for influenza A (13%), 2 for parainfluenza 3 (9%), 2 for coronavirus (9%), and one each tested positive for adenovirus, parainfluenza 4, respiratory syncytial virus and influenza B. One patient had co-infection with rhinovirus and human metapneumovirus. Patients infected with a respiratory virus had severe illness as nearly half (10/23; 48%) required intensive care, 5 (22%) required mechanical ventilation, 4 (17%) were discharged to a higher level of care, and 3 (13%) died.

**Conclusion.** The role of respiratory viruses on the lung health of HIV-infected patients is poorly defined. In this study, respiratory viruses were identified in over a third of HIV-infected inpatients, representing a substantial disease burden. Moreover, these patients demonstrated significant disease severity. Given these findings, there is a need for future studies of viral infections in HIV-infected individuals to elucidate mechanisms of susceptibility to reduce the burden of pulmonary morbidity in this vulnerable population.

**Disclosures.** All authors: No reported disclosures.
2267. The Effect of Opportunistic Infection (OI) Prophylaxis on the Gastrointestinal Microbiome (GIM) and Immune Reconstitution (IR) in Veterans With HIV and AIDS

Marion Skalweit, MD PhD1,2; Jennifer Cadnum, BS3; Michelle Nerandzic, MS3; Samira Joussel-Ptih, MS3; Anne Mihelich-Ross, JD RN4; Robert A. Bonomo, MD4; Miguel Quiñones-Mateu, PhD5; and Curtis J. Donkey, MD6; 1Medicine, Cleveland Clinic, Cleveland, Ohio; 2Case Western Reserve University, Cleveland, Cleveland, Ohio; 3Research Service, Cleveland VA Medical Center, Cleveland, Ohio; 4Research, Louis Stokes Cleveland Department of Veterans Affairs Medical Center, Cleveland, Ohio; 5New York University School of Medicine, New York, New York; 6Department of Medicine, Section of Infectious Diseases and Global Health, University of Chicago, Chicago, Illinois.

"Reserve University, Cleveland, Ohio, 2Department of Microbiology, School of Public Health, University of Antioquia, Medellin, Colombia, 3Universidad Pontificia Bolivariana, Medellin, Colombia, 4Universidad de Antioquia, Medellin, Colombia, 5Universidad Pontificia Bolivariana, Medellin, Colombia, 6Microbiology School, Universidad de Antioquia, Medellin, Colombia, 7Universidad de Antioquia, Medellin, Colombia, 8Universidad Pontificia Bolivariana, Medellin, Colombia.

Session: 242. HIV: Opportunistic Infections and Other Infectious Complications

Saturday, October 6, 2018: 12:30 PM

Background. HIV patients face higher rates of morbidity compared with the general population, largely due to the earlier development of age related diseases (cardiovascular disease and chronic lung disease). While these chronic conditions and inflammation are the main contributors to this process, it’s relation to lung injury in HIV remains unknown. Despite restoration of systemic immune function following Antiretroviral Therapy, the risk for lower respiratory tract infection remains elevated in the HIV population. The objective of the study was to assess the relationship between pulmonary inflammation and lung injury.

Methods. A prospective cohort study was performed, participants include patients hospitalized in Hospital Universitario San Vicente Fundación and Clinica SOMA, in Colombia. Patients were eligible if they were over the age of 18 and had a documented HIV infection or if they have HIV with newly diagnosed community acquired pneumonia (CAP). The main exclusion criteria were chronic lung disease and immunosuppression that is not due to HIV. Patients belonged to two groups: HIV and HIV + CAP. Plasma, sputum samples and pulmonary function test measurements (PFT) were retrieved at 48–72 hours of hospital admission and at one month follow-up. The concentrations of 13 biomarkers were measured and correlated with PFT values, followed by a comparison between the two groups.

Results. Principle Component Analysis revealed that CCL3, CCL4, BAFF, APRIL, and TIMP-1 was the majority for the majority of the variation between the two groups. Furthermore, Kruskal–Wallis testing demonstrates that BAFF and CCL3 are elevated in the HIV + CAP group, compared with the HIV group (P < 0.005). Other markers of bacterial translocation and monocyte activation did not differ between these groups. FVC and FEV1 measurements are lower in the HIV + CAP group compared with the HIV group, while FEV1/FVC remain constant.

Conclusion. The results of this study identify a unique constellation of biomarkers in HIV patients with CAP; this constellation of biomarkers consists of pro-inflammatory cytokines and regulators of extracellular matrix remodeling, hinting at the occurrence of an inflammatory and tissue injury process in the lungs. This is supported by the restrictive ventilation pattern seen in this group of patients.

Disclosures. All authors: No reported disclosures.

2268. Clinical Difference of Mycobacterium haemophilum Infections Between HIV and Non-HIV-Infected Patients

Porommya Nookeu, MD1; Palakorn Phoumpouang, MD2; and Suporn Foonglada, DVM, PhD3; 1Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, 2Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand, 3Faculty of Medicine Siriraj Hospital, Bangkok, Thailand.

Session: 242. HIV: Opportunistic Infections and Other Infectious Complications

Saturday, October 6, 2018: 12:30 PM

Background. Mycobacterium haemophilum has emerged as one of nonnontuberculous mycobacteria which cause localized and disseminated infections in immunocompromised patients. Infections caused by this pathogen were rarely diagnosed and reported because it can grow only in heme supplemented culture media.

Methods. We performed a case–control study at Siriraj hospital, the biggest tertiary care hospital in Thailand, to determine the clinical difference and treatment outcome of this infection between HIV-infected and non-HIV-infected individuals.

Results. From January 2012 to December 2017, there were 21 patients diagnosed with Mycobacterium haemophilum infections. Eight of them were HIV infected. Rest of the patients were non-HIV immunocompromised which SLE was the most common comorbidities (autoimmune diseases 6 patients, anti-IFN gamma auto Ab 2 patients, kidney transplant recipients 2 patients, diabetes mellitus 2 patients and nephrotic syndrome 1 patient). The most common clinical manifestation was cutaneous involvement (13 patients, 61.9%). The result revealed that HIV-infected patients were much younger in comparison with non-HIV-infected patients (mean age 39 ± 10 VS. 52 ± 14 years; P = 0.025). Disseminated infection was more common in HIV-infected patients (37.5% vs. 15.4%, P = 0.325) and three of eight HIV-infected patients (37.5%) had centriacinar system involvement whereas none of non-HIV-infected patients had it (P = 0.042). The prognosis was slightly worse in HIV-infected individuals (Unfavorable prognosis 27.5% in HIV-infected VS. 15.4% in non-HIV-infected patients; P = 0.325).

Conclusion. HIV infection is the most common immunocompromised condition related with Mycobacterium haemophilum infection. Central nervous system involvement is more common in HIV-infected patients.

Disclosures. All authors: No reported disclosures.