Disclosures. All authors: No reported disclosures.

376. Effect of Parasitic Infections on Gut Epithelial Barrier and Immune Activation among Foreign-Born HIV-infected Patients
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Thursday, October 3, 2019: 12:15 PM

Background. Strongyloides stercoralis often causes an asymptomatic infection despite continuous autoinfection for the lifetime of the host. Both HIV and recurrent enteric parasitic infections cause gut damage and increased microbial translocation, but little is known about the effects of co-infection. We aimed to evaluate changes in immune activation, mucosal damage, and microbial translocation in people with HIV-1 (PWH) and parasite co-infection.

Methods. In this pilot prospective cohort study, we enrolled foreign-born PWH on suppressive antiretroviral therapy (ART) in an ambulatory clinic in Houston, Texas. We evaluated serum Strongyloides IgG using ELISA with an S. stercoralis-specific recombinant protein. Intestinal fatty acid-binding protein (I-FABP), soluble CD14 (sCD14), sCD163, IL-6, and TnRFII were analyzed as markers of enterocyte turnover, inflammation, and immune activation. Non-parametric tests were used for analysis.

Results. 52 participants born in 14 countries were enrolled February–March 2019. Median CD4 count was 464/μL [95% CI 315–598]. Fourteen (27%) were positive for Strongyloides IgG. Strongyloides IgG levels correlated positively with sCD14 levels [r = 0.36, P = 0.008]. Strongyloides+ participants had significantly higher sCD14 levels compared with Strongyloides- participants [1.67 vs. 1.48 μg/mL, P = 0.031]. Among the Strongyloides+ participants, Strongyloides IgG levels correlated with sCD163 levels [r = 0.65, P = 0.026]. There were no difference in the other biomarkers. Logistical regression analysis showed that predictors of Strongyloides+ include absolute eosinophil count (AEC) (OR 1.45 for every 100 increase of AEC [95% CI: 1.02, 2.15; P = 0.047]), CD4 count, number of years living in the United States, country of origin, and years from HIV diagnosis were not associated with test positivity.

Conclusion. Strongyloides co-infection is common among foreign-born PWH and may contribute to chronic monocyte/macrophage activation, a predictor of morbidity and mortality in PWH. Future directions include stool PCR confirmation of these infections, continued enrollment, and follow-up assays 6 months after treatment of Strongyloides to determine the impact on inflammation and risk of co-morbidities.

Graph 1. Correlation of level of sCD14 (μg/mL) with Strongyloides IgG (units/ml)

Graph 2. Comparison of sCD14 (μg/mL) in Strongyloides+ and Strongyloides- patients.
Pneumonia (PJP) is inflammation of the gastric mucosa with Helicobacter pylori (H. pylori) is associated with gastric cancer, the highest incidence of which is observed in South Korea. The objective of this study was to evaluate the seroprevalence and risk factors of H. pylori infection in Korean HIV-infected patients.

Methods. In a hospital-based survey, HIV-infected patients attending Outpatient Department of Pusan National University Hospital were enrolled between October 2018 and January 2019. Socio-demographic information was evaluated using questionnaires, serological status of H. pylori infection was tested with commercial H. pylori serology kits (Helicobacter pylori IgG ELISA, IBL, Germany).

Results. A total of 362 patients were included in the study. Two hundred and sixty-one patients (86.4%) were males and 41 (13.6%) were females. Their median age was 54 years (range, 23–81 years), median CD4+ count was 667 /μL (7–1,699 /μL). The overall seropositivity of H. pylori in HIV-infected patients was 30.1%. Age-specific seroprevalence was as follows: 20–29 years, 12.5%; 30–39 years, 15.6%; 40–49 years, 38.6%; 50–59 years, 36.2%; 60–69 years, 27.9%; and ≥70 years, 18.2%. A lower seroprevalence of H. pylori was observed among patients younger than 40 years; however, it was not significant (P = 0.063). The risk factors associated with H. pylori seropositivity were alcohol consumption [adjusted odds ratio (OR): 1.99, 95% confidence interval (CI): 1.17 to 3.39, P = 0.011] and CD4 cell count ≥250/μL (OR = 4.32; 95% CI 1.51–12.36; P = 0.006).

Conclusion. HIV-infected patients had a lower seroprevalence of H. pylori compared with general population (30.1% vs. 49.1%). Alcohol consumption and CD4 cell count ≥250/μL were significant risk factors for H. pylori seropositivity.

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379. Clinical Management of HIV-associated Pneumocystis jirovecii Pneumonia in Rural Nigerian Communities: Public Health Interventions and Impact

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Background. Human Immunodeficiency Virus (HIV) patients are at increased risk of opportunistic infections and malignancies. Evaluation for the etiology of fever and/or cytopenia with conventional means such as cultures and serology can remain negative. Bone marrow aspiration or biopsy (BMAB) has the advantage of diagnosing disseminated infections, hematological abnormalities and oncological malignancies in HIV patients.

Methods. We performed a retrospective descriptive study of HIV patients with fever and/or cytopenia who underwent bone marrow aspiration or biopsy (BMAB). Patients with a diagnosis of HIV, 18 years and older who underwent BMAB in University Health (UH) Hospital or in UH clinics from January 2012 to February 2018 were included.

Results. There were a total of 42 patients who underwent Bone Marrow Aspiration or Biopsy. The median age was 41.5 years. Twenty-eight patients were Male and 14 were female. Preexisting Hematological malignancy was present in 10 patients at the time of BMAB. Average CD4 count at the time of BMAB was 92.8 patients were compliant with ART and 12 patients were compliant with clinic appointments. White Blood Cell (WBC) count below 4.4 cells / L was present in 30 patients at the time of BMAB. Disseminated Mycobacterium Avium Complex infection (2 patients), Disseminated Histoplasmosis (2 patients), Disseminated Cryptococcus (1 patient) and Parvovirus B19 (based on Immunohistochemistry, 1 patient) were diagnosed from BMAB. CD4 count of these 6 patients range from 0 to 12 at the time of BMAB. All 6 patients were non compliant to HIV medications and clinic appointments.

Conclusion. Since the advent of Anti Retroviral drugs with excellent efficacy and early diagnosis of HIV patients, incidence of disseminated fungal and mycobacteral infections have decreased in the United States. But patients with low CD4 count and cytopenias warrant a Bone Marrow aspiration or Biopsy to make a clear and early diagnosis.

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380. Characterizing Host Factors, Treatment Strategy, and Clinical Outcomes of Group A Streptococcal Orthopaedic Infections

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Background. The annual incidence of invasive β-hemolytic group A streptococcal infections in the United States is approximately 3.8 cases per 100,000 patients with 10–30% mortality. But data in GAS orthopedic infections is limited. We sought to characterize patient factors, medical and surgical management, and clinical outcomes from GAS orthopedic infections at our medical center.

Methods. A total of 12 patients with GAS orthopedic infections (necrotizing fasciitis, osteomyelitis, prosthetic joint infection, septic arthritis, or tenosynovitis) from