The spectrum varies from what is reported in the rest of the world, being the anatomical compromise also different from developed countries reports. In Colombia there has not been published any study that characterizes the anatomicopathological findings of opportunistic infections in a sample of HIV/AIDS patients this size.

**Methods.** Descriptive retrospective study, adjusted to the current regulations on human research and followed by the protocol approved by the Department of Pathology of the Universidad Industrial de Santander (UIS) between 2004 and 2016 was executed, selecting those with HIV/AIDS and at least one opportunistic infection as the final diagnosis, of these there were evaluated the pathological findings and demographic variables.

**Results.** Among 377 autopsy protocols were found 249 cases of HIV/AIDS associated to opportunistic infections, 183 men (73.5%) and 66 women (26.5%), with an average age of 37.9 ± 12.56 years. The main compromised systems were the Lower Respiratory Tract (LRT) with 184 cases (73.8%), mainly by *M. tuberculosis* (76 cases; 41.3%), followed by the Central Nervous System (CNS) with 95 cases (38.1%), mainly by *Toxoplasma gondii* (38 cases; 20.6%), and in third place the Lymphoreticular System (LRS) with 92 cases (50%), mainly by *Histoplasma capsulatum* (39 cases; 21.1%). Less prevalent agents like *Trypanosoma cruzi* were found compromising multiple systems, with 6 infecting the CNS and 7 causing Chagasic myocarditis.

**Conclusion.** Disseminated forms and simultaneous multiple agent compromise of one system are common features in HIV/AIDS patients, because of this the clinician must have a high level of suspicion for diagnosing coinfection when approaching a disseminated treatment or system compromised by an infectious agent.

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583. **Strongyloidiasis Epidemiology and Treatment Response in Patients with HIV Infection**

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**Background.** We sought to characterize the epidemiology of HIV and S. stercoralis coinfection in an urban HIV cohort, and to investigate the effect of S. stercoralis infection on HIV virologic control and immune recovery.

**Methods.** We reviewed the medical records of all HIV-infected patients diagnosed with strongyloidiasis who received care at Thomas Street Health Center (Houston, TX) between 2000 and 2015. For each case we included up to two matched HIV-infected patients without strongyloidiasis (controls). Matching was based on age, sex, ethnicity, baseline CD4 percentage, and HIV viral load at the time of strongyloidiasis diagnosis in the case patient. We recorded patient demographics, comorbidities, CD4 count and percentage, HIV viral load, and absolute eosinophils count (AEC) at the time of HIV diagnosis, strongyloidiasis diagnosis, and six and twelve months after ivermectin treatment or system compromised by an infectious agent.

**Results.** We identified 15 cases of HIV and S. stercoralis coinfection; 13 had at least one available matched control. The mean age of coinfected patients was 45; all were Hispanic, 84.6% were male, and the mean CD4 nadir was 146 cells/μL. At the time of strongyloidiasis diagnosis, the mean CD4 count was 460 cells/μL, HIV RNA viral load 2.07 logs/mL, and AEC was 1,360 cells/μL. At 6 and 12 months after treatment, CD4 counts were 514 and 464 cells/μL, HIV RNA viral loads 1.78 and 2.21 log/mL, and AECs 319 and 362 cells/μL, respectively. Although CD4 counts increased 6 months after treatment, the AECs did not change achieving statistical significance. The reduction in AECs after ivermectin treatment was statistically significant (*P* < 0.001). Matched controls without *S. stercoralis* had lower AECs at baseline, 6 months, and 12 months; otherwise, there were no differences between cases and controls.

**Conclusion.** Strongyloidiasis treatment in HIV-infected patients led to normalization of the AEC at 6 months in most cases, but AECs remained higher than in control patients. Persistently elevated AECs may suggest treatment failure or reinfection. Our results highlight the need for HZ vaccine safety and efficacy studies to help guide provider practice. A review of the autopsy protocols performed at the Department of Pathology of the University of the Health Sciences, Bethesda, Maryland, 3Infectious Disease Clinical Research Program, Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, Maryland, 4Infectious Disease, San Antonio Military Medical Center, Fort Sam Houston, Texas, 5Division of Infectious Diseases, Naval Medical Center San Diego, San Diego, California, Infectious Disease Clinical Research Program, Preventive Medicine and Biostatistics Department, Uniformed Services University of the Health Sciences, Bethesda, Maryland, 6Madigan Army Medical Center, Tacoma, Washington, 7Department of Medicine, Tripler Army Medical Center, Honolulu, Hawaii, 8Naval Medical Center Portsmouth, Portsmouth, Virginia, 9Walter Reed National Military Medical Center, Bethesda, Maryland, 10Infectious Disease Clinical Research Program, Uniformed Services University of the Health Sciences, Rockville, Maryland, 11Department of Preventive Medicine and Biostatistics, Infectious Disease Clinical Research Program, Uniformed Services University of the Health Sciences, Rockville, Maryland.

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**Background.** Herpes Zoster (HZ) incidence has decreased over 40% in the United States but remains elevated in persons living with HIV (PLWH). HZ vaccine is not routinely recommended for PLWH and provider-prescribing patterns vary greatly. Updated incidence information in this population is needed to guide vaccine strategies. Using data from the US military HIV Natural History Study (NHS), we evaluated the incidence and risk factors for HZ in the modern ART era.

**Methods.** NHS subjects undergo bi-annual visits with laboratory testing, examinations, and records reviewed for clinical diagnosis, including HZ. Analysis was restricted to subjects contributing to follow-up after 2001. Risk factors for HZ (demographic and HIV-specific) were assessed with a multivariate Cox proportional hazards model.

**Results.** Of the 2954 subjects meeting inclusion criteria, 237 (8%) were diagnosed with HZ. At HZ diagnosis, the median age, CD4 count, and viral load were 38.6 years [IQR: 30.8, 45.8], 461 cells/μL [IQR: 333, 638] and 1900 copies/mL [IQR: 50, 19580], respectively. The incidence of HZ was highest prior to 1996 at 3.24 cases/100 person-years (PY) of follow-up (2.96–3.54) and declined significantly over time with 1.9 [1.6–2.3], 1.4 [1.2–1.8], 1.4 [1.1–1.7], and 0.9 [0.7–1.2] cases/100 PY recorded in 1996–2000, 2001–2005, 2006–2010, and 2011–2016, respectively. In the multivariate model, longer time from HIV diagnosis to ART initiation was associated with HZ. ART use, higher CD4 count, recent year of HIV diagnosis, and older age were protective (Table 1).

**Conclusion.** HZ remains a common diagnosis in the ART era, but HIV infected persons may have different risk factors compared to the general population. Delays in ART initiation were associated with HZ emphasizing the need for compliance with current ART guidelines.

**Table 1.**

| Risk factor                | Adjusted hazard ratio |
|----------------------------|-----------------------|
| Age (per year increase)    | 0.93 (0.91, 0.95)     |
| HIV diagnosis era < 1996   | Ref                   |
| 1996–2000                  | 1.01 (0.62, 1.67)     |
| 2001–2005                  | 0.73 (0.43, 1.23)     |
| 2006–2010                  | 0.81 (0.42, 1.60)     |
| 2011–2016                  | 0.30 (0.12, 0.76)     |
| Time to ART initiation from HIV diagnosis | 1.04 (1.01, 1.09) |
| Current ART use            | 0.45 (0.22, 0.93)     |
| Current CD4 count          | 0.78 (0.47, 0.93)     |

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