**Poster #P260 HIV/Hepatitis C Co-Infected Patients Are Significantly more Complex to Manage than HIV Mono-Infected Patients in a Large Cohort of Treatment-Naïve, HIV-Positive Individuals**

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**OBJECTIVE:** To evaluate differences between HIV mono-infected and HIV/HCV co-infected patient populations.

**METHODS**

- The Observational Pharmaco-Epidemiology Research & Analysis (OPERA) database follows 67,500 HIV+ patients through their electronic health records from 79 US community-based outpatient clinics in 15 states. (Figure 1)
- The OPERA population represents ~7% of all HIV+ patients linked to clinics in the US. It is the largest continuously operating cohort of HIV+ patients in the US, refreshed daily.
- The analysis included HIV+ individuals initiating HIV antiretroviral therapy (ART) for the first time between 1/1/2007 and 3/31/2015.
- Patients were followed from HIV treatment initiation to discontinuation of regimen, loss to follow-up, death or study end (3/31/2016).
- Demographics and clinical characteristics were compared between HIV/HCV co-infected and HIV mono-infected patients using Pearson chi-square or Wilcoxon rank-sum tests. Differences in time to HIV viral suppression (≥50 copies/ml) with and without HIV co-infection were assessed using multivariable Cox proportional hazards regression.

**RESULTS**

- Of 9,190 HIV+ treatment-naïve patients, 7,837 (85.3%) were HIV antibody negative and 472 (5.1%) were HIV+; 881 (9.6%) patients had a history of HCV clearning or no testing prior to baseline and were excluded.
- HIV/HCV co-infected patients were significantly older (median age: 46.7 vs. 34.0 years), less likely to be male (76.9% vs. 86.6%), Hispanic (16.9% vs. 25.1%), or MSM (39.8% vs. 59.8%) than HIV mono-infected patients (p<0.0001) (Table 1, Figure 2).
- Baseline CD4 cell counts were lower for HIV/HCV co-infected patients (279 vs. 330 cells/μL, p=0.0029) who were also more likely to have a history of HCV clearing or no testing prior to baseline (9.7% vs. 6.3%, p=0.0003); there were no differences between groups in baseline HIV viral load.

**DISCUSSION**

- HIV/HCV co-infected patients tend to be older, have more comorbid conditions, receive more medications, and are more medically frail than HIV mono-infected patients.
- Co-infected patients present with more advanced HIV disease (lower CD4 counts and more AIDS defining illnesses) and are less likely to suppress and more likely to rebound virologically while receiving their initial HIV antiretroviral therapy.
- Psychologically, HIV/HCV patients suffer disproportionately from mental illness and substance abuse.
- HIV/HCV co-infected patients tend to be socioeconomically disadvantaged relying on Medicaid significantly more than HIV mono-infected patients.
- Strategies to simplify HIV treatment in HIV/HCV co-infected patients by optimizing pill count (lower pill burden) and limiting or avoiding complex drug interactions will be particularly important as more HIV/HCV co-infected patients are offered interferon free, direct acting antiviral (DAAs) treatment for their HIV infection. Moreover, during HIV treatment, continued management of multiple comorbid conditions will also be necessary and reinforces the importance of simplification of HIV treatment in co-infected individuals.

**KEY FINDINGS**

- HIV/HCV co-infected patients differ significantly from HIV mono-infected patients. Co-infected patients are more complex and pose unique treatment challenges for clinicians. Strategies to simplify co-infected patients’ HIV care and avoid complications will be particularly important for this population as clinicians begin treating patients with DAA-based therapies while continuing to simultaneously manage the treatment of multiple co-morbid conditions.

**REFERENCES**

1. **CDC**. Sexually Transmitted Disease Treatment Guidelines 2015. MMWR 2015; 64 (No.3).

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