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Session: 154. HIV Drug Resistance
Friday, October 6, 2017: 12:30 PM

Background. Integrase Strand Transfer Inhibitor (INSTIs) transmitted resistance has remained uncommon, estimated at 0.04%, with E157Q being the mutation most commonly identified. E157Q is thought to cause low-level resistance to raltegravir and elvitegravir but has also been the only mutation implicated in a recent case of detectable resistance failure. INSTI resistance testing is not currently recommended and little data is available on clinical outcomes on INSTI therapy in the presence of E157Q, therefore we reviewed all the patients in an urban clinic in Detroit with E157Q seen on genotyping to determine the clinical impact.

Methods. We reviewed the records of all Wayne State University Adult HIV clinic attendees in Detroit, Michigan who had an INSTI genotype performed between February 2014 and February 2016 to identify those with an E157Q mutation. We reviewed demographics, HIV risk factors, treatment and clinical outcomes.

Results. 292 patients had INSTI resistance testing during our study period. 24 patients (8.2%) had an E157Q mutation. These patients had a median age of 27.5 years. They were predominantly male (87.5%), black (87.5%) and MSM (70.8%). Four patients had an additional mutation (N155H, T97S, L74V , and V151I). Eleven patients were treatment-naïve, consistent with transmitted E157Q drug resistance. One treatment-naïve patient had both the E157Q mutation and the T97S mutations. Of the 24 patients with E157Q, 15 were placed on an INSTI-based regimen and 6 (40%) achieved viral suppression at 12 months. Amongst the entire cohort, seven patients were lost to follow up at and 2 had stopped treatment at 12 months. Overall, 36 (95%) patients had at least one undetectable HIV RNA after switching. None of the patients with an initial undetectable HIV RNA became detectable after switching ART adjustment based upon results of archived DNA GT testing. While our sample size was relatively small, our data suggests that E157Q is not an infrequent mutation and patients with E157Q who were started on INSTI-based regimens and were adherent achieved viral suppression. This is reassuring for rare cases of ART start at initial HIV diagnosis with INSTI based ART without genotype data. Loss to follow up and poor adherence were seen frequently, limiting our ability to determine clinical outcomes on ART.

Conclusion. While favorable new antiretroviral therapy (ART) options are available for HIV disease, the Department of Health and Human Services guidelines recommend against switching suppressive regimens unless there is evidence that the new regimen will be fully active. A new assay analyzes archived HIV pro-viral DNA and can detect resistance mutations when HIV RNA is below the limit of detection, when standard genotyping (GT) is not possible. Small studies have correlated archived DNA GT to historical plasma RNA viral load, but there is no available data on treatment outcomes when using this assay to determine antiretroviral therapy switch strategies. We evaluated clinical outcomes following ART adjustment based upon results of archived DNA GT testing.

Methods. A retrospective review of electronic medical records was performed at our medical center from October 2014 to October 2016. Inclusion criteria included age 18-20 years of age, archived DNA GT result available, ART changed after archived GT result, and follow up HIV RNA available after ART switch. Data was collected prior to and after ART switching. McNemar’s test was used for categorical variables and paired t-test for continuous variables.

Results. A total of 38 patients were included. Most patients were male (89%), Caucasian (66%), had a history of AIDS diagnosis (45%), had HIV for >10 years (74%) and had baseline ART resistance (24% resistant to 1 class, 37% resistant to ≥ 2 classes). Median baseline CD4 was 532 cells/mm3. At baseline, 31 (82%) patients had HIV RNA < 50 copies/mL. Compared with baseline, 35 (92%) patients were undetectable at follow up (P < 0.02). Median time to further averaged 32 HIV and 28 HCV tests per month from January to March 2016 and increased after the noted interventions to an average of 300 HIV and 247 HCV tests per month from January to March 2017.

Conclusion. A high disease burden was found within the studied population, highlighting the benefit of routine opt out testing for HIV and HCV. Empowering residents and nurses to offer screening at time of admission is a viable strategy to scale up testing in the inpatient setting.

Disclosures. All authors: No reported disclosures.
compared with 15.4% for Chicago overall. In 2016 X-TLC screened 91,865 persons for HIV, and 65.2% of those tested were women. There were 119 new diagnoses and 32.1% of those tested were women. There were 193 new diagnoses and 32.1% (62) were women, 85.7% AA. In comparison, in 2015 there were 139 women with a new HIV diagnosis for all of Chicago. Women newly diagnosed were less likely to be linked to care (adjusted odds ratio, aOR, 0.54, 0.35–0.85). Linkage was lower for women diagnosed CHICAGO, 7.63, 2.14–18.46. Most CHICs did not have on site HIV providers. At our site, however, women linked to care were more likely to be retained in care (aOR 0.58, 0.43–0.78). We also conducted targeted outreach testing, partner services (PS) testing, and social network strategy (SNS) testing, but women are not identified by these programs (16/171 tested women, 8 new diagnoses were men for PS; 507 tested, 471 men and 36 trans-gender women, 38 new positives, 0 cis-gender women for SNS).

**Conclusion.** More women than men were offered and/or accept HIV screening in healthcare settings. The proportion of seropositive women identified was higher than the national average. X-TLC is reaching a large proportion of AAA women with HIV unaware of their status. Other testing strategies will rarely identify cis-gender women with HIV infection. Gender differences in linkage to and retention in care will require strategies targeted at women.

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**1380. A Randomized Trial of Bictegravir or Dolutegravir with Emtricitabine and Tenofovir Alafenamide (F/TAF) Followed by Open Label Switch to Bictegravir/F-TAF Fixed Dose Combination**

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**Session:** 156. HIV: Antiretroviral Therapy

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**Methods.** Integrase strand transfer inhibitors (INSTIs) are widely recommended as first-line treatment. Bictegravir (BIC, B) is a novel, once-daily INSTI with potent antiviral activity being developed in combination with emtricitabine and tenofovir alafenamide (F/TAF).

**Results.** In this Phase 2 study, treatment naïve, HIV-infected adults were randomized 2:1 to receive blinded treatment with BIC or dolutegravir (DTG) coadministered with open label F/TAF (200/25 mg). After all participants completed 48 weeks, they were unblinded and switched to a single fixed-dose combination tablet of BIC/F/TAF 50/200 mg. The proportion of participants with HIV-1 RNA <50 copies/mL (n=34) atendpoint was higher in the BIC arm (94%) compared with 15.4% for Chicago overall. In 2016 X-TLC screened 91,865 persons for HIV, and 65.2% of those tested were women. There were 193 new diagnoses and 32.1% of those tested were women. There were 193 new diagnoses and 32.1% of those tested were women. There were 193 new diagnoses and 32.1% of those tested were women.