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Poster Session VI

Laboratory and risk factors in HIV infection

ANALYSIS OF BASELINE HIV-1 GENOTYPES IN NAÏVE SUBJECTS WITH HIV IN A CORRECTIONAL SETTING

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Objectives: Before initiation of antiretroviral therapy (ARVT), a genotype is recommended to assess for baseline transmitted drug resistance (TDR). A recent review of several US studies reports TDR prevalence between 3.4% to 26%. It was reported that 1.3-6% of individuals had 2-class resistance and 1.0-1.5% of individuals had 3-class resistance. Previous studies show that baseline resistance is most common to nucleoside reverse transcriptase inhibitors (NRTI), followed by non-nucleoside reverse transcriptase inhibitors (NNRTI), and then protease inhibitors (PI). The incidence of TDR is largely unknown in the incarcerated population. We attempted to define the prevalence of HIV-1 transmitted drug resistance in naïve subjects in a correctional setting in the state of Illinois. **Methods:** A retrospective, observational chart review was performed analyzing baseline HIV-1 Genotypes in naïve patients drawn between July 2010 and June 2013. We identified patients who had significant NRTI, NNRTI, and major PI mutations. These were defined as those that conferred low, intermediate, or high level resistance to antiretrovirals (ARVs) using the IAS-USA drug resistance mutations list and the Stanford University HIV Drug Resistance Database genotypic resistance interpretation algorithm. **Results:** We analyzed the genotypes of 72 ARV-naïve patients. Patients were predominantly black (84.7%) and male (83.3%). HIV infection was acquired via heterosexual intercourse in 53 patients (73.6%). Seventeen patients (23.6 %) had significant mutations. The number of patients with significant NRTI, NNRTI, and PI mutations is detailed in Table 1. No patients had more than 2-class ARV resistance (Figure 1). The average baseline CD4 count (cells/mm³), CD4% and HIV viral load (copies/mL), obtained when genotype was drawn, for patients who had significant mutations versus those that did not, was as follows: 346.5 vs. 394.8 cells/mm³, p = 0.40; 18.6% vs. 22.3%, p = 0.16; 59,818 vs. 258,252 copies/mL; p = 0.30). **Conclusions:** The 23.6% baseline TDR found in our study is on the upper end of TDR previously reported in the US. Non-nucleoside reverse transcriptase inhibitors still carry the highest risk for TDR in the incarcerated population. There was no statistically significant difference in CD4 count, CD4%, or HIV viral load in patients who had significant mutations versus those that did not. Our study reinforces national guidelines recommending baseline resistance testing for ARV naïve HIV positive persons. We feel that baseline resistance testing should be performed on all HIV positive inmates in the Illinois state prison population.

Figure 1.

