

Poster presentations

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First Molecular surveillance report of HIV in injecting drug users and female sex workers in Mexico

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Background

HIV prevalence is on the rise among high-risk populations in Tijuana and Ciudad Juarez. The molecular epidemiology of the HIV type 1 was studied in 2005 among injecting drug users (IDU) and female sex workers (FSW) in these Mexico-U.S. border cities, which contribute over two-thirds of the migrant flow between Mexico and the United States.

Methods

A total of 35 HIV-infected samples were collected; 21 from Ciudad Juarez (6 IDU and 15 FSW), and 14 from Tijuana (6 IDU and 8 CSW). Serum was collected and viral RNA was extracted. Extracted RNA was used to synthesize cDNA after priming from the 3' end. Synthesized cDNA was PCR-amplified at the protease and reverse transcriptase region (ProRT). This was sequenced using an ABI 3100 automated sequencer. Phylogenetic analysis was performed by aligning reference sequences using MacGDE to conduct Neighbor-joining analysis.

Results

Eleven of the 35 samples were successfully amplified, sequenced and analyzed (8 IDU; 3 FSW, of whom 1 reported IDU exposure). Phylogenetic analysis showed that all 11 samples were subtype B. There was no phylogenetic clustering of IDU strains separate from FSW strains

or of Tijuana strains separate from Ciudad Juarez strains. Two of three FSWs, both from Tijuana, had low-level resistance mutations. FSW, TJ157, had the protease inhibitor resistance mutation G48E and TJ108 had the nucleoside reverse transcriptase mutation T69N.

Conclusion

This community-based study demonstrated that HIV-positive IDUs and FSWs in Ciudad Juarez and Tijuana are predominantly infected with subtype B. Two of three FSW, both from Tijuana, had unrelated anti-retroviral drug resistance mutations. Further studies in Mexican FSWs should be done to determine the rate of primary drug resistance because although ARVs are available as part of the Mexican universal health care system coverage and adherence is sporadic.