Oral Abstract Presentation

PS11/4 - An Outbreak of Primary HIV Infection among Injecting Drug Users in Tel Aviv, Israel Associated with Changes in the Illicit Drug Use Practices

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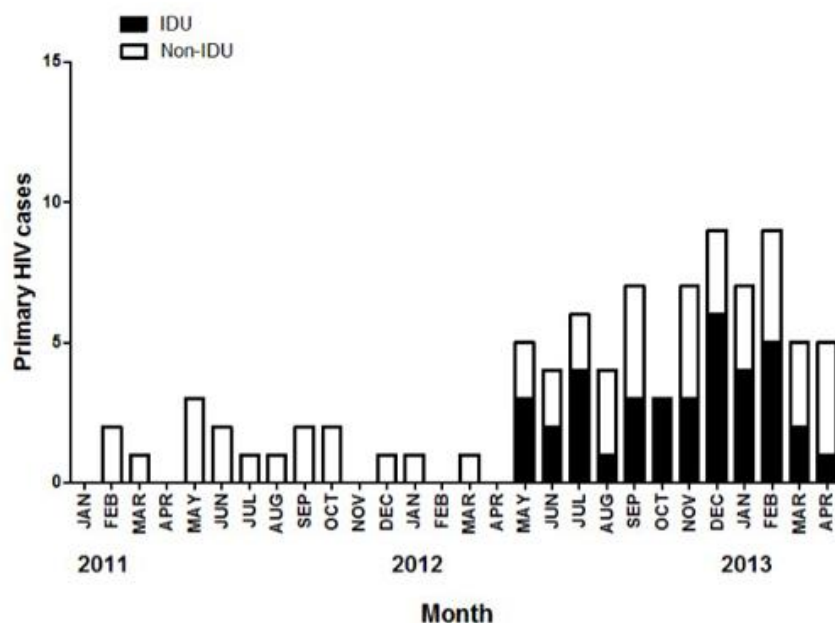
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Objectives: Injecting drug user (IDU) communities are at risk for outbreaks of HIV infection. We report on a large-scale outbreak of primary HIV infection (PHI) in IDU in Tel Aviv, Israel, and its relation to changes in illicit drug use practices.
Methods: A significant increase in the rate of PHI at our center prompted us to perform active surveillance and risk factors analysis. We collected demographic, clinical and laboratory data and performed field visits and interviews with IDUs and their caregivers. HIV genotyping and phylogenetic relationships among viral sequences were determined.
Results: The rate of PHI diagnosed in our center increased six-fold after May 2012 (outbreak period; 5.9 versus 1.0 cases per month, $P< 0.0001$). PHI during the outbreak period was associated with injecting drug use (50.7% versus 0%, P=0.0001), epidemiologic curve shown on Figure 1. Severe bacterial coinfections were frequent and comprised the most common reason for hospitalisation. All IDUs with PHI were coinfected with HCV and 33% were coinfected with HBV. The mortality rate was 7.5% three months after diagnosis of PHI. All HIV isolates were a variant of subtype A/CRF01 AE; phylogenetic analysis showed a tight clustering suggesting a single source of infection, Figure 2. All IDUs with PHI interviewed had recently switched from heroin use to injecting combinations of cathinone and buprenorphine, and reported increased frequency of injections, sharing of non-sterile reservoirs and no need for boiling due to the high solubility of the new compounds. No cases of PHI were diagnosed in IDUs who continued to inject heroin.

Figure 1: Epidemiological curve of primary HIV infection (PHI) diagnosed at Tel Aviv Medical Center, January 1st, 2011 through April 2013. Black bars, PHI in injection drug users (IDUs); white bars, PHI in non-IDUs.
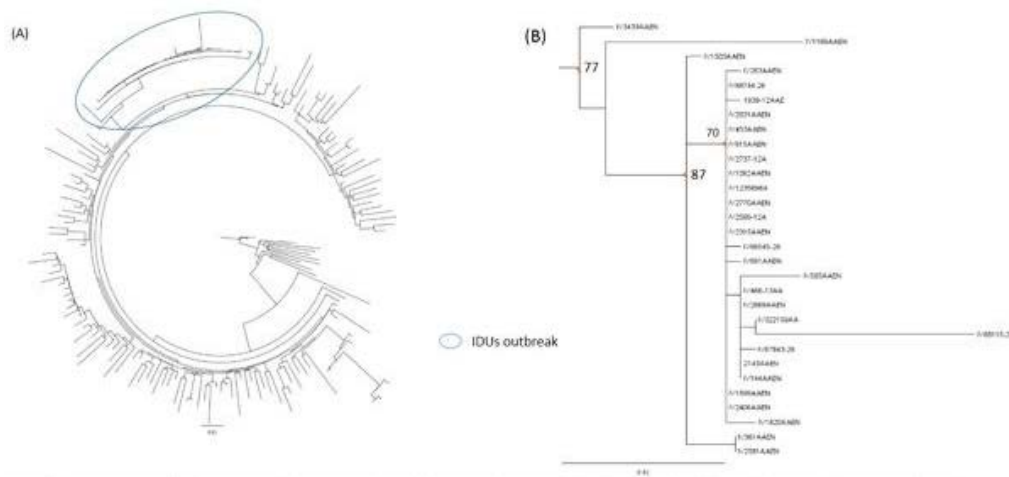

[Figure 1]

Figure 2. Phylogenetic trees. (A) Phylogenetic tree describing the evolutionary relationship among 173 subtype A/CRF01 AE HIV-1 (reverse transcriptase and protease) sequences from naïve patients. A major cluster is demonstrated presenting the described outbreak in IDUs (30 patients). (B) Phylogenetic tree describing showing the cluster pattern of 30 sequences in the IDU patients. Bootstrap supports are indicated at the base of the corresponding branches.

[Figure 2]

Conclusion: Injection of cathinone/buprenorphine is associated with an extremely high risk of infections with blood-borne pathogens. Our findings strongly suggest that a change in drug use patterns precipitated this ongoing outbreak of HIV infection among IDUs and failure of previously efficient risk reduction programs.

Abstract Details

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