Abstract #22

Enhanced Laboratory Surveillance of Acute HIV Infection in Sydney Australia

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OBJECTIVE

To determine the effect of qualitative nucleic acid screening on the yield of acute HIV infection detection in an inner Sydney population with generally, an over representation of risk factors associated with HIV acquisition.

METHODS

Routine clinical diagnostic samples referred for HIV testing that screened negative by a fourth generation HIV-1/2 antibody/antigen combination enzyme immunoassay (Abbott Architect, IL, USA) were combined in pools of 6 samples each. Samples were included if they were referred from high HIV case load primary care general practitioners from individuals who had consented to HIV testing. Pooled samples were tested for HIV-1 RNA using a qualitative nucleic acid amplification assay (NAAT) designed for blood and tissue donor screening. (Ampliscreen HIV-1,ver 1.5 NJ USA). Pool member samples were retested individually if the pool tested positive for the presence of HIV-1 RNA to identify the infected sample. Specimens over the same period that were newly identified as HIV seropositive were further tested by an serological testing algorithm for HIV seroconversion (STARHS) incidence immunoassay to estimate incidence in the referral population.

RESULTS

A total 2,922 HIV-1/2 Ab/Ag seronegative samples in 487 pools were screened using NAAT over a 12 month period. Three pools tested positive for HIV-1 RNA. Individual panel members were re-tested in single and the first reactive sample was identified as from a 41 year old homosexual male presenting with a non-chlamydia, non-specific urethritis and underwent routine testing for HIV. The sample was negative for HIV-1 p24 antigen EIA, HIV-1/2 3rd generation EIA and HIV-1 western blot. The second individual was a 56 year old homosexual make reporting a significant exposure with known HIV partner 7 days earlier. The third case was from a 38 year old homosexual male presenting for routine HIV testing without reporting an at-risk exposure. All cases of acute infection have undergone subsequent HIV testing confirming HIV seroconversion.

CONCLUSIONS

The inclusion of HIV nucleic acid testing in a testing strategy increases the identification of acute cases of HIV-1 infection and monitoring rates of newly acquired infection with serological testing strategies provides important means of enhanced surveillance of HIV incident infection and may highlight opportunities for prevention.