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P14-09. Use of HIV rapid tests for assessment of persistence of vaccine induced antibodies among HIV vaccine recipients

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Background

Induction and persistence of vaccine induced antibodies among recipients of HIV vaccines may pose a diagnostic challenge. We investigated the performance and usefulness of rapid tests for the detection of HIV antibodies among healthy HIV-uninfected people previously enrolled in a phase I HIV vaccine trial in Kigali, Rwanda.

Methods

Between September 2005 and May 2006, 57 healthy, HIV-uninfected adult volunteers (36 males and 21 females) were enrolled in a phase-I, randomized, placebo-controlled HIV vaccine trial at Projet San Francisco in Kigali, Rwanda. At the end of the trial and after unblinding, all volunteers were asked to participate in a long-term follow-up study for continuous clinical and immunological evaluation. HIV testing using three rapid tests (Abbott Determine™ HIV1-2, Trinity Biotech Capillus™ HIV-1/HIV-2 and Trinity Biotech Uni-GoldTM HIV) and an ELISA test (Bio-Mérieux Vironostika HIV Uniform II Ag/Ab) was performed every three months.

Results

Of the 57 volunteers enrolled in the trial, 13 received placebo, 13 received one dose of a recombinant HIV-1 adenoviral type 5 vector vaccine (rAd5), and 31 received 3 doses of an HIV-1 DNA plasmid vaccine followed by one dose of rAd5. Of these 44 vaccine recipients, 41 produced HIV antibodies during the trial period. After 18 to 24 months of follow-up, 32 volunteers still test HIV-positive on the ELISA test, but only one volunteer tested persistently HIV positive using HIV rapid tests.

Conclusion

Most vaccine recipients produced HIV antibodies that have persisted for at least two years. These vaccine-induced antibodies are predominantly detected by a commercial ELISA test, and not by the three HIV rapid tests that were evaluated. This study suggests that HIV rapid tests can be very useful in the long-term follow-up of HIV vaccine recipients.