

Reinventing blood safety

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Poster Presentation

First Detection in France of an HIV-1 Confirmed-Positive Blood Donor by NAT

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Background:

Since 1st July 2001, French blood banks have been implementing Nucleic Acid Amplification Testing (NAT) of all blood donations to reduce HIV-1 and HCV transmission by infectious pre-seroconversion units. The first donation HIV-1 antibody (Ab)-negative and HIV-1 NAT positive was identified within 2 months following NAT implementation.

Methods:

Among the 3 NAT procedures available, the French Army Blood Centre has selected for performance and feasibility criteria, Procleix HIV-1 / HCV Assay (Gen-Probe / Chiron Blood Testing) performed on single donation.

Results:

The 19 year-old male repeat donor sample was tested negative for anti-HIV Ab, as well as HIV-1 p24 antigen, and positive for HIV-1 RNA. The donor's previous donation was negative by all serological testing and NAT. The donor was contacted for follow-up and results are summarized in the table.

Days	HIV-1 TMA S/CO	HIV RNA copies/ml	HIV Ab S/CO	HIV Ag
0	21	124,578	neg	neg
8	23	2,488,500	1.5	400 pg/ml

HIV-1 Western Blot was negative at day 8, indeterminate at day 13 and positive day 28.

The epidemiological study evidenced a sexual risk behaviour. Resistance genotype on reverse transcriptase inhibitors demonstrates 2 mutations suggesting the contamination was initiated by a subject undergoing an antiretroviral treatment. Gag and Pol's gene sequencing showed the virus was a combination of 2 sub-types A and G.

Conclusion:

This case confirms that NAT is key to the prevention and release of infectious blood donations. NAT implementation should be recommended in free and anonymous screening centres in order to avoid recruitment of risk donors by blood banks.