

Poster presentation

Open Access

Early diagnosis of HIV-1 infection in infants using RNA Quantitative PCR in Burkina Faso

Hermann Somlare*^{1,2}, Lassana Sangare^{1,3}, Saydou Yamegogo^{1,2}, Carine Ouedraogo², Yolande Dembel¹, Monique Soro², Parfait Some⁴ and Caroline Yonaba⁴

Address: ¹Laboratory of Bacteriology and Virology of Hospital University Center Yalgado Ouédraogo, West Africa, Burkina Faso, ²UFR Sciences de la Vie et de la Terre of University of Ouagadougou, West Africa, Burkina Faso, ³UFR Sciences de la Santé, West Africa, Burkina Faso and ⁴Paediatric clinic of Hospital University Center Yalgado Ouédraogo, West Africa, Burkina Faso

* Corresponding author

from Fifth Dominique Dormont International Conference. Mother-to-child transmitted viral diseases: from transmission to children care Paris, France. 26–28 March 2009

Published: 22 July 2009

Retrovirology 2009, 6(Suppl 1):P10 doi:10.1186/1742-4690-6-S1-P10

This abstract is available from: <http://www.retrovirology.com/content/6/S1/P10>

© 2009 Somlare et al; licensee BioMed Central Ltd.

Aim of study

To diagnose HIV infection in African infants born to HIV-1 infected mothers using Abbott RealTime PCR (Abbott Molecular).

Materials and methods

From January to December 2008, 114 infants born to HIV-1 infected mothers were referred to the University Hospital Yalgado Ouédraogo (Ouagadougou, Burkina Faso), for early diagnosis of HIV infection. Two to 3 mL of blood sample were collected on EDTA/K3 microtubes from each infant. After centrifugation, the plasma samples were stored at -80°C, until their use. HIV-1 RNA was detected in each sample using Abbott RealTime HIV-1 Assay (Abbott Molecular) and m2000rt protocol: the RNA detection threshold was 40 copies/mL (1.6 Log). From each infant with RNA positive result, a second plasma sample was collected 4 weeks later to confirm the previous RNA result Sociodemographic data were collected from the infants and analysed.

Results

The mean age of the newborns was 4,5 months, and the sex ratio was 0.92. The HIV RNA PCR assay was positive in 14/144 (9.7%) newborns in both samples tested: the mean viral load was 4,135,853 copies/mL (6.6 Log copies/mL), and the mean CD4 percentage was 20.25%.

Nineteen children and their mothers did not receive dual antiretroviral prophylaxis (AZT+NVP) for the prevention of mother to child transmission (PMTCT): 13 (68.4%) of them were HIV-positive against only 1 (0.8%) among the 125 who received the prophylaxis. The HIV-1 transmission rate was significantly higher in children without PMTCT ($p = 0.00$). Ten (71.4%) HIV-positive infants were breast-fed exclusively, 2 (14.3%) received mixed breast-feeding and 2 (14.3%) received formula: exclusively breast-feeding could be a higher risk of HIV transmission than the 2 other routes.

Conclusion

These results showed that Abbott RealTime HIV-1 assay for the quantitation of HIV-1 can be used for the early diagnosis in HIV-exposed infants, even in newborns who received antiretroviral prophylaxis. The exclusive breast-feeding appears as high risk of HIV transmission from infected mothers to their children.