

Poster presentation

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

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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>

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### 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.