Retrovirology



Poster presentation



# Successful reduction of mother-to-child transmission of HIV-1 by nevirapine and non-breastfeeding in Hanoi and Haiphong, Vietnam

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## Background

The rate of transmission of HIV-1 from mother-to-child increases over time during pregnancy, delivery, and breastfeeding [1,2]. The latter is about as common as the other two combined. However, breastfeeding is also crucial to decrease infant mortality from infections. Vietnam is a developing country. In the cities the access to clean water and understanding of sanity is good, providing an opportunity to introduce formula feeding of children, born to HIV-infected mothers [3].

## Subjects and methods

A prospective study was performed in 137 HIV-1 infected pregnant women from Hanoi and Haiphong. Nevirapine prophylaxis was given to the women at delivery and to the newborn child. Counselling was provided, focusing on the importance of follow up of the child for early diagnosis and the value of formula feeding to avoid HIV-1 transmission from breast milk. Peripheral EDTA blood samples were collected at birth (1-2 days), at 1, 3, 6, 12, 18 months. Polymerase chain reaction (PCR), specific for the detection of the *pol* gene, was used as a diagnostic tool during the first year of life. Serology was added at 12 and 18 months.

## Results

All 137 women accepted to provide formula feeding. Nevirapine prophylaxis was given to 107/137 (78%). In total eleven children (8.03%) were infected. Treatment reduced transmission by 50 % from 4/30 (13.3%) among untreated to 7/107 (6.5%) in the treated group.

Six of 135 (4.4%) children had a positive PCR test at birth, as evidence of intrauterine transmission [2,4]. Three children of 135 (2.2%) were negative at birth but positive at one month, as evidence of intrapartum transmission [5]. Two of these children had been subject to nevirapine prophylaxis. Another two children were not tested at birth and at one month, but came for diagnosis at 12 and 18 months, respectively [5]. In theory they could have been transmitted by breast milk, but the mothers denied having fed them breast milk. Three of 11 (27.3%) of the HIV-1 infected children died in AIDS. There was no death among the uninfected children during the first 18 months of life (p=0.0004).

## Conclusions

Using a focused counselling on the role of nevirapine prophylaxis for prevention and breastfeeding for transmission, it was possible to reduce transmission to a similarly low level as in developed countries, while using a similar intervention strategy. There was no sign that the uninfected children had been exposed to a medical danger by the lack of breastfeeding, rather lives were saved.

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