

Poster presentation

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## Mother-to-child transmission of HIV-1 drug resistance in a French cohort

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### Background

The use of antiretroviral drug therapies in HIV-1 infected pregnant women and their infants has resulted in significant reductions in the rates of mother-to-child transmission (MTCT), although emerging resistances become a growing concern. The aim of this study was to characterize resistance patterns of HIV-1 strains for mother-infant pairs among the residual cases of vertical transmission.

### Materials and methods

HIV-1 infected infants by vertical transmission diagnosed in their first year of life in a single teaching hospital and born between January 1997 and May 2006 were enrolled. Viral genotypes were performed on available samples of plasma RNA-HIV, at the time of diagnosis for infants and the closest possible to delivery in their respective mothers. HIV-1 genotype drug resistance interpretation was based on the ANRS algorithm of July 2006. Whenever possible, genotypic drug resistance profile of HIV-1 was also obtained for the father.

### Results

18 mother-infant pairs were included, 11 identified through MTCT prevention follow-up (MTCT rate: 11/947=1.2%), 7 cases in various contexts with mothers diagnosed for HIV-1 beyond delivery. Samples were available for genotypes in 14 of them. In 4/14 (29%) infected HIV-

1 newborns, resistant virus to at least one antiretroviral drug were observed. For these four cases, two genotypic analyses of the father supplemented the analysis of mutation transmission.

In the first mother-infant pair, mutation M184V/M was identified in the sample of the newborn (unexposed post-natally to 3TC) at 14 days of life although not detected in its mother's sample at 40 days before delivery. In the second mother-infant pair, poor compliance of multitreated woman explained vertical transmission of multidrug-resistant HIV-1 (AZT, 3TC and IP). In the third case, identical mutations conferring resistance to AZT (T215Y) and NNRTI (K103N+Y181V) were observed in the infant and both parents. The last case resulted from a documented primary HIV-1 infection in late pregnancy with vertical transmission of a K101E resistant mutation isolated also in father and mother, both being naïve to ARVs.

### Conclusions

Over almost 10 years, 18 cases of vertical transmission of HIV-1 were registered in this cohort with an important proportion of infected infants who acquired drug-resistant virus (4/14 - 29%). The results of this study raise the importance of HIV screening of pregnant women and partners. Viral genotyping can guide prophylaxis regimen and/or treatment of infected infants.