

DURING PREGNANCY AND AFTER DELIVERY BREAST MILK VIRAL LOAD



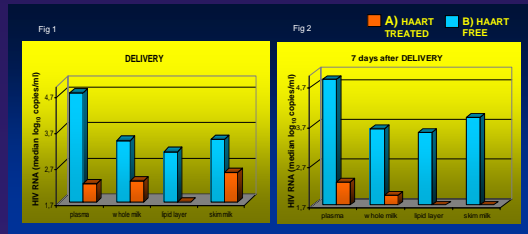
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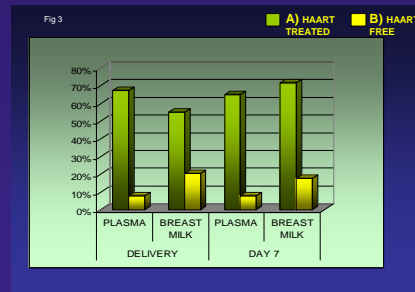
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RESULTS

HIV-RNA levels in plasma and in all breastmilk fractions were significantly lower ($p < 0.001$) in group A in comparison to group B at both study timepoints (Figures 1 and 2). There was no significant difference in the HIV-RNA levels among the different fractions of breastmilk in both groups of women.



The proportion of women with HIV-RNA < 400 copies/ml in plasma and in breastmilk was significantly higher in group A at both study timepoints (Figure 3).



CONCLUSIONS

In our pilot study we have shown that the breastmilk HIV-RNA levels of the women receiving triple combination prophylaxis for approximately 3 months during pregnancy and after delivery were significantly lower than the corresponding levels in the untreated women. Also, the proportion of women with undetectable breastmilk viral load was significantly higher in the treated women.

Our data support the role of maternal HAART prophylaxis in preventing breastfeeding-associated transmission. However, only future clinical studies will determine if the observed decrease in breastmilk viral load will translate in a significant reduction of postnatal transmission.

In a multivariate model including CD4+ count, haemoglobin level and receipt of HAART, antiretroviral therapy use showed to be the strongest predictive variable associated with a level of HIV-RNA < 400 copies/ml in breastmilk at time 7 ($p < 0.001$). Levels of CD4+ cells were also significantly associated ($p = 0.02$).

Among women receiving treatment, those with HIV-RNA < 400 copies/ml in both breastmilk samples had a lower pre-HAART viral load and a lower plasma HIV-RNA at delivery in comparison to women with HIV-RNA > 400 copies/ml in breastmilk ($p < 0.0001$ for pre-HAART viral load and $p < 0.0001$ for viral load at delivery).

Table 2 reports the antiretroviral concentrations (at a median of 6 h after last dose of ARVs) in plasma and breastmilk at the two study timepoints. Overall, median breastmilk concentrations of nevirapine, lamivudine and zidovudine were 0.6, 1.8 and 1.1 times, respectively, those in maternal plasma.

TABLE 2	Maternal plasma concentrations, mcg/ml	Breastmilk concentrations, mcg/ml	Breastmilk/plasma ratio
NVP			
T0			
mean	3.1	2.3	0.8
median	2.9	2.5	0.7
T7			
mean	3.9	2.2	0.6
median	4.0	2.1	0.6
3TC			
T0			
mean	0.2	0.4	3.3
median	< 0.01	0.2	1.2
T7			
mean	0.4	0.4	2.9
median	0.1	0.3	2.3
ZDV			
T0			
mean	0.1	0.1	0.9
median	< 0.02	< 0.02	0.9
T7			
mean	0.2	0.1	1.0
median	< 0.02	< 0.02	1.1

References

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