



Pregnancy Outcome in HIV-1-infected Women Receiving Combination Therapy Prior to Conception

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Background: Treatment of HIV-1 pregnant women and their babies with antiretrovirals (ARV) has drastically decreased the perinatal transmission of HIV. Some studies suggest that HIV-infected women have a higher risk of adverse outcomes during pregnancy than HIV-negative women but results regarding the impact of antiretroviral drugs prior to conception are still limited. We evaluated the incidence of adverse effects on pregnancy in women receiving antiretroviral therapy before pregnancy and compared to those who started treatment after the first trimester.

Methods: A prospective cohort of HIV-1 pregnant women followed from 1996 to 2003, at a referral center for HIV positive pregnant women (IPPMG/HUCFF – UFRJ) in Rio de Janeiro, Brazil was studied.

Eighty women were being treated with dual (30 patients (pts) – 37.5%) or triple therapy (50 pts – 62.5%) at the time of conception. Triple therapy consisted of 2 NRTIs + nevirapin (35 patients) or nevirapine (14 pts) and one got pregnant while using efavirenz (which was changed to nevirapine afterwards).

A total of 434 women started antiretroviral therapy after the first trimester of pregnancy (monotherapy with AZT: 45.4%; dual therapy: 40.8%, triple therapy: 13.8%).

Results: Adverse effects are summarized in the table below.

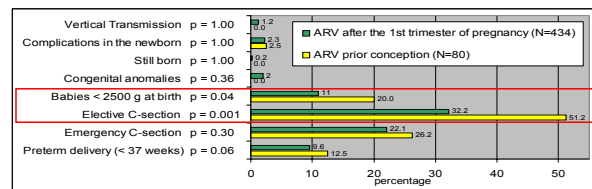
Use of ARV before conception was related to a higher risk of elective C-section (RR: 1.59, 95% CI: 1.25-2.05) and low birthweight (RR: 1.81, 95% CI: 1.08-3.02).

Congenital anomalies were observed only in babies born to women treated after the first trimester of pregnancy (AZT: 4 pts; AZT+3TC: 4 pts, HAART: 1 pt).

Twelve babies presented complications at the time of delivery: oligohydramnios – 2 babies; anoxia – 4; anoxia + oligohydramnios or low birthweight for gestational age – 3; meconium aspiration – 3; 2 of these events occurred in babies whose mothers were using ARV prior to gestation.

Vertical transmission in the cohort was 1.2% and was seen only in mothers who started therapy after the first trimester of gestation.

Conclusions: HIV-infected women who started treatment with antiretroviral drugs prior to conception have a higher risk of emergency C-section and of delivering a baby of low birthweight, however preterm delivery, congenital anomalies and complications in the newborn do not seem to be increased in this situation.



Elective C-section - RR: 1.59, 95% CI: 1.25-2.05
Low BirthWeight - RR: 1.81, 95% CI: 1.08-3.02

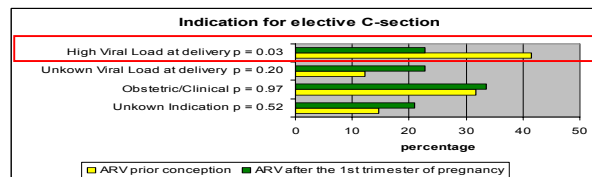
Objective:

To compare pregnancy outcome in women receiving antiretrovirals before conception with those treated after the 1st trimester of pregnancy

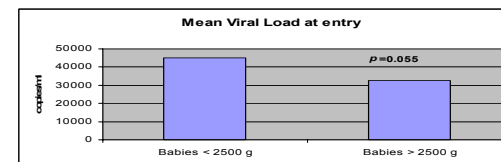
Results:

Subjects: 514 HIV pregnant women followed at UFRJ until Mar 2003

Characteristics	ARV prior conception	ARV after the 1st trimester of pregnancy	p
Patients enrolled	80	434	
Mean age (yrs)	28	25	0.0001
Symptomatic disease	29	35	< 0.0001
CD4 at entry (Mean)	373	436	0.02
CD4 at delivery (Mean)	417	487	0.43
Viral Load at entry - cp/ml (Mean)	34429	34880	0.96
Viral Load at entry -cp/ml (Median)	2872	8157	0.006
Viral Load at delivery- cp/ml (Mean)	41685	3096	0.008
Viral Load at delivery-cp/ml (Median)	1600	390	0.03



There was a correlation of elective C-section and a high viral load at delivery in women who got pregnant while using ARV therapy, suggesting that suppression of viral load in this situation is more difficult.



Although there was a trend to delivery of a LBW baby in mothers with a higher VL at entry, no correlation was seen with CD4 or VL at entry/delivery in both groups studied.

Possible explanations for a higher risk of LBW in women in use of ARV prior to conception could be:

1. More advanced stage of disease ?
2. Effects of ARV in the early stage of pregnancy?
3. Prolonged effects of viremia?

Conclusions

- > Preterm delivery, congenital anomalies and complications in the newborn do not seem to be more common in women in use of antiretrovirals prior to conception.
- > Poor suppression of viremia was related to a higher risk of elective C-section in this situation.
- > LBW was not correlated with virologic and immune parameters, although there was a trend of correlation with a high VL at the beginning of pregnancy, independent of treatment history.

