Poster Number

605

Poor Virologic Control in Pregnant Adolescents with Perinatally Acquired HIV Infection Compared to Horizontally Infected Pregnant Women

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INTRODUCTION

- **Due to advances in the management of HIV disease, girls with perinatally acquired (PA) HIV infection are entering child bearing age and an increasing number of them are getting pregnant.**
- **Adolescents and young women with perinatally acquired HIV have a different natural history of disease and treatment than women with horizontally acquired (HA) infection.**
- **Perinatally infected pregnant women represent a special group of patients with complex problems including but not limited to:**
  - **lifelong HIV infection**
  - **adherence issues**
  - **multi drug resistant HIV**
  - **chronic and often severe immunosuppression**
  - **psychosocial problems: adolescent and family**
  - **adolescent behavioral patterns**

OBJECTIVE

To describe the clinical, virologic and immunologic characteristics before, during and after pregnancy in a cohort of women with PA HIV disease and compare them to a cohort of women with HA HIV infection

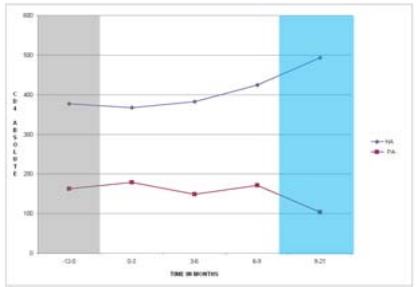
METHODS

A retrospective chart review of:

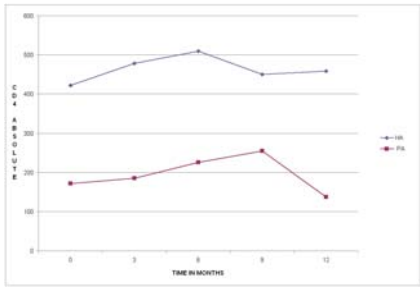
- **9 PA HIV infected women with 12 pregnancies (all the women were followed in our clinic between January 2000 and December 2007)**
  - **3 women were pregnant twice**
- **27 HA HIV infected women with 33 pregnancies (consecutive pregnant women followed at Jacobi Medical Center from January 2001 through December 2007)**
  - **6 women were pregnant twice**
- **Log $_{10}$ HIV RNA and CD4+ T lymphocyte absolute counts were graphed as the average of all results available**
  - **within 6 - 12 months before pregnancy**
  - **during each trimester**
  - **one year postpartum**
- **Newborn data include the gestational age, mode of delivery, birth weight and perinatal history**
- **The perinatally infected women were closely monitored by an integrated multidisciplinary care team.**

RESULTS

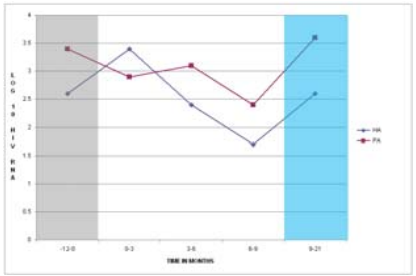
CD4+ absolute values before, during and after pregnancy



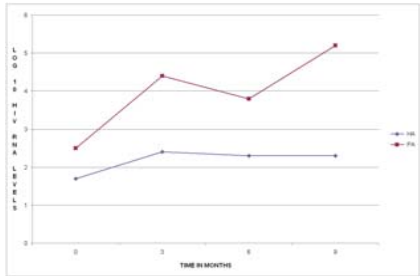
CD4+ absolute values one year post - partum



Log $_{10}$ HIV RNA before, during and after pregnancy



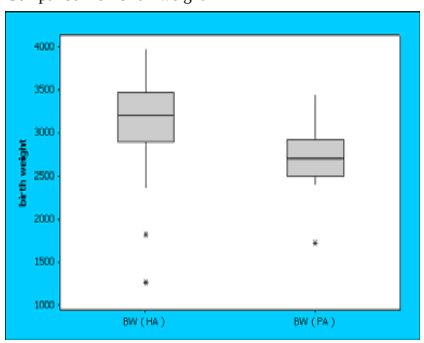
Log 10 HIV RNA one year post - partum



Patient characteristics

	Horizontally Acquired (HA)	Perinatally Acquired (PA)
RACE		
Hispanics	3	6 (67%)
African Americans	21 (78%)	6
HAART		
NRTI	31	12
NNRTI	13	1
PI	31	10
HIV RNA levels in copies/ml		
<400	28 (85%)	5 (38%)
400-1000	1	0
1000-<10,000	2	2
>10,000	1	4 (31%)
BIRTH WEIGHTS in grams		
1500-2000	2	1
2000-2400	3	1
2500-3000	4	8 (66%)
>3000	23 (66%)	2
GESTATIONAL AGE in weeks		
38-40	21 (68%)	1
37-38	9 (29%)	9 (90%)
<37	1	1
MODE of DELIVERY		
C-S	13 (48%)	10 (83%)
NSVD	20 (60%)	2 (27%)

Comparison of birth weight



- **The mean ages at delivery were 30 years in the HA and 20 years in the PA cohorts**
- **There were no vertical transmissions in either group. Three infants born to mothers in the PA group received a three drug prophylactic regimen (their mothers had high VLs and MDR HIV). One of these children contracted HBV perinatally.**
- **Birth weights of the newborns in the PA cohort were lower than in the HA cohort.**
- **Only 5 women (40%) from the PA cohort achieved viral suppression during the third trimester compared to 85 % of women in the HA cohort.**
- **During the first month postpartum, both groups experienced rebound viremia. However, the HA group returned to baseline VL within a month while the PA group remained persistently viremic.**
- **CD4+ absolute counts were significantly and consistently lower in the PA cohort.**
- **As shown in the graphs, the VL and CD4+ differences between the groups became more pronounced in the post - partum period.**
- **In addition to the 12 pregnancies described in the PA group, there were 10 pregnancies in our overall PA population that ended in elective termination, and one miscarriage.**

CONCLUSIONS

- **Despite transient improvement in virologic and immunologic parameters during pregnancy, health outcomes of perinatally infected women are worse when compared to horizontally infected women.**
- **These findings may reflect a return to the maladaptive behaviors and unstable environments that pervaded the lives of these PA infected young women before they became pregnant. The presence of a demanding newborn can exacerbate these conditions and may lead to poorer virologic control and further post – partum CD4+ decline. In addition, these factors may interfere with maternal – infant bonding.**
- **Perinatally infected women with complex HIV disease pose significant challenges in the prevention of mother to child transmission.**
- **In caring for this unique population our efforts should focus on optimizing maternal physical and mental health, particularly in the post – partum period. Future multicenter collaborations will be necessary to achieve these goals.**