Abstract #: P-T8

Early infection rates among Ugandan HIV exposed infants whose mothers received option B+ vs option A

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Background

- Interventions with combination antiretroviral (ARV) treatment during pregnancy and breastfeeding have shown significant progress in prevention of mother to child transmission (PMTCT) of HIV.
- At Mulago National Referral Hospital, Uganda,Option A was used from December 2010 for PMTCT.
- For CD4> 350mls/ul: antenatal AZT/single dose NVP in labour and AZT/3TC tail for mother while infant received syrup NVP throughout breastfeeding.
- For CD4 ≤ 350mls/ul: Maternal lifetime ART and infant syrup NVP for 6weeks.
- In October 2012,Option B+ : lifetime maternal ART with TDF/3TC/EFV and infant syrup NVP for 6weeks was rolled out.

Objective

To compare early HIV infection rates among exposed infants whose mothers received option A(December 2012 to October 2012) compared to Option B+ (October 2012 to August 2013) for PMTCT among Ugandan women.

Methods

- We compared early (6-12 week) infection rates among infants of HIV+ mothers who received Option A with those whose mothers received option B+ for PMTCT.
- Infants whose mothers were already on life long ART from other centers were also tested.
- Infant DNA PCR testing using Roche Taqman on DBS was done from 6-12 weeks.

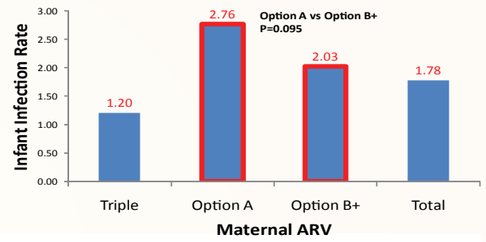
Analysis

- For this analysis, option A was classified as mothers who received AZT/sdNVP ante and perinataly. Mothers who received HAART for their own health under option A and those who were already receiving from other centers were defined as Triple therapy, while those on ART for B+ were option B+.
- Early infant HIV infection rates for overall and by different drug regimens were summarized using percentages. The maternal and infant characteristics were summarized in tabular displays.
- A regression analysis using Poisson distribution was done to assess association between early infection status and maternal and infant characteristics.
  All statistical analyses were done using STATA-10 statistical software package (STATACorp LP, College Station, TX).

Results

- A total of 4332 infants were tested for HIV between 6-12weeks.
- Out of the 1049 mothers who received option A 29(2.76%) infants tested PCR positive at age 6-12 weeks, compared to 21/1033(2.03%) infants born to mothers who received Option B+.
- The lowest infection rates were observed for infants whose mothers received ART for their own health; 27/2250(1.20%) during both time periods

Infant PCR status at 6-12weeks, N=4332



Infant characteristics

	N= 4332	Pos =77	Infant infection Rate (%)	IRR	(p-value)	Adj IRR	(P-value)
Sex Baby							
Female	2124	39	(1.8)				
Male	2206	38	(1.7)	0.93	(0.75)	0.90	(0.62)
Feeding Status							
Replacement Feeding	157	3	(1.9)				
Exclusive BF	2362	70	(3.0)	1.7	(0.39)	1.65	(0.39)
Stopped BF	1791	3	(0.2)	0.09	(0.004)	0.07	(0.002)
Mixed feeding	19	1	(5.3)	2	(0.55)	2.30	(0.48)
Maternal ARV							
Triple Therapy (care)	2246	27	(1.2)				
AZT + sdNVP	1048	29	(2.8)	2.1	(0.004)	2.60	(0.000)
Option B+	1036	21	(2.0)	1.7	(0.08)	0.94	(0.85)

Median age(weeks) for infant HIV testing (IQR) 6.6 (6.0-6.9)

Maternal characteristics

	N= 1947	Pos =41	Infant infection Rate (%)	IRR	P-value	Adj IRR	P-value
Maternal Age (yrs)							
<20	124	5	(4.0)				
20-29	1084	28	(2.6)	0.63	(0.3)	0.73	(0.5)
30+	339	8	(2.4)	0.58	(0.3)	0.8	(0.7)
Marital status							
Married	1396	39	2.79				
Single	133	2	1.50	0.52	(0.4)	0.51	(0.4)
Widowed/Div	18	0	0	-	-	-	-
Employment							
Employed	786	14	1.78				
Unemployed	761	27	3.55	1.98	(0.04)	1.73	(0.5)
Education							
None/primary	608	16	2.63				
Secondary	803	25	3.11	1.23	(0.5)	1.33	(0.4)
Tertiary	136	0	0	-	-	-	-
CD4 Count							
0-350	489	12	2.45				
>350	1058	29	2.74	1.09	(0.8)	0.78	(0.5)
Maternal ARV							
Triple therapy	331	7	2.11				
AZT/NVP	643	21	3.27	1.52	(0.3)	1.65	(0.4)
HAART B+	573	13	2.27	1.15	(0.8)	1.22	(0.7)

- There was no significant difference in infection rates between infants whose mothers received Option A versus Option B+ for PMTCT. (P= 0.095)

Conclusion

- There were no significant differences in early HIV infection rates among HIV exposed infants whose mothers received option B+ compared to those who earlier received option A.
- Women who required ART according to Uganda MOH adult treatment guidelines had the lowest rates of transmission.

Recommendations

While these data are encouraging, follow up of both mothers and infants through the end of breast feeding will be important to assess late transmission rates and also maternal adherence to ART under option B+

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