Viral Suppression in HIV-Infected Pregnant Women with and without TB, South Africa

Poster 826
Contact: Jennifer Hoffmann
jhoffm45@jhmi.edu

Jennifer Hoffmann[1], Silvia Cohn[1], Fildah Mashabela[2], Reginah, Msandiwa[2], Richard Chaisson[1], Neil Martinson[2], and the TSHEPISO Study Team

[1]Johns Hopkins University School of Medicine, Baltimore, MD, US; [2]Perinatal HIV Research Unit (PHRU), University of the Witwatersrand, Soweto, South Africa

Background

HIV and tuberculosis (TB) are the leading infectious causes of death among women of reproductive age worldwide. In South Africa, the burden of overlapping HIV and TB epidemics is exceptionally high contributing disproportionately to the high maternal mortality ratio.

- Nearly 30% of pregnant women presenting for prenatal care are HIV-infected.
- HIV is the leading cause of maternal death, responsible for an estimated 60% of all maternal deaths[1]
- TB is the leading cause of maternal death in both HIV-infected and seronegative pregnant and postpartum women in South Africa
- ART reduces the risk of active TB, with ART scale-up associated with a 24% reduction in TB incidence in South Africa.
- Prevalence of active TB in HIV-infected pregnant women in Soweto is 688/100,000[2]
- Co-infection with TB may increase the risk of vertical HIV transmission to the unborn child.

Combination antiretroviral therapy (cART) during and after pregnancy is essential for maternal health and prevention of mother to child transmission.

The South Africa national PMTCT guidelines were revised in March 2013 to recommend cART to all HIV-infected pregnant women regardless of CD4 and to continue lifelong cART if women with CD4 ≤350 or WHO clinical stage 3 or 4 (e.g. tuberculosis).

Methods

Tshepiso is a prospective observational cohort study of HIV-infected pregnant women with TB (cases) and matched HIV-infected pregnant women without TB (controls) in Soweto, South Africa. Women are enrolled prenatally and followed during delivery, and then mother-infant pairs are followed to one year postpartum for HIV and clinical outcomes. HIV care is provided by the local clinics .

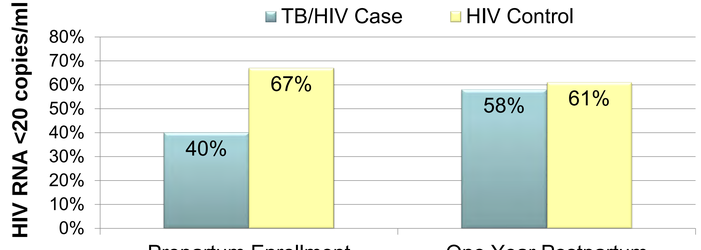


From January 2011 to November 2013, we enrolled 200 HIV-infected pregnant-women, 68 TB/HIV cases and 132 HIV controls. We describe here 166 of those who have completed the follow up visit. The prenatal and postpartum viral suppression, maternal cART use, and MTCT.

Results

		TB/HIV Case	HIV Control	p-value
Prepartum Enrollment	n	56	110	
	Median age	29 [25, 31]	29 [26,33]	0.55
	Median gestational age	29 [25, 34]	29 [25, 31]	0.97
	Receiving cART	63%	56%	0.32
	Undetectable VL n(%)	14 (25%)	45 (41%)	0.04
	Viral Load [IQR]	3285 [210,25865]	2035 [515,18900]	0.67
	CD4 [IQR]	290 [149,431]	373 [282,490]	0.001
One Year postpartum	n	49	81	
	Receiving cART	79%	68%	0.21
	Undetectable VL n(%)	22 (45%)	34 (42%)	0.74
	Viral Load [IQR]	30063 [2705,148634]	9125 [1685,43416]	0.13
	CD4 [IQR]	434 [229,565]	469 [337,617]	0.40

Results: Viral Suppression on cART



		Prepartum Enrollment	One Year Postpartum
Median (IQR) months of cART treatment	TB/HIV/Case	1.7 [1.1,3.3]	15.9 [14.7,17.3]
	HIV Control	3.1 [1.4,19.6]	17.5 [15.9,26.4]
	p value	0.017	0.006

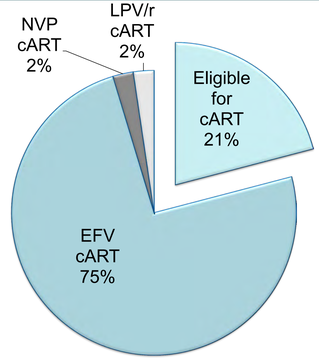
Results: MTCT & Mortality

At delivery 82% of cases and 64% of controls were on cART. All infants received daily NVP for at least the first 6 weeks. There were 4 stillborns (2 cases, 2 controls). There were 3 infant deaths (2 cases, 1 control). There was 1 maternal death at 1 year postpartum

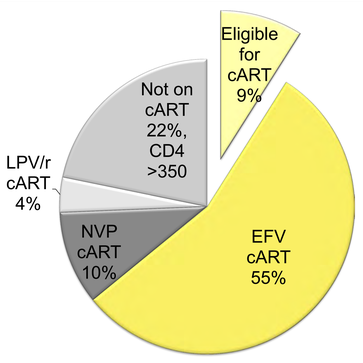
Among 156 infants with PCR results after 6 weeks, there were 4 cases of MTCT

- 2 mothers on AZT at time of delivery for PMTCT(1 case, 1 control)
- 2 mothers on EFV cART with a duration <3months at delivery (1 case, 1 control)

Results: ART status at one year postpartum



TB/HIV Case



HIV Control

Eligible for cART defined as women who met clinical eligibility for initiating cART per PMTCT guidelines, but not receiving cART

Conclusions

Uptake for cART for clinical eligibility was lower than expected.

Our cohort revealed sustained suboptimal viral suppression at one year postpartum.

There was no difference in virologic suppression at one year postpartum between TB/HIV cases and HIV controls on cART.

Our results demonstrate the potential need for programmatic provider clinical guidelines training and additional peripartum adherence interventions and monitoring.

References

[1]Getting to Zero: HIV in eastern and southern Africa, UNAIDS 2013

[2] Gounder CR, Wada NI, Kensler C, et al. Active tuberculosis case-finding among pregnant women presenting to antenatal clinics in soweto, south africa. *J Acquir Immune Defic Syndr*. 2011;57(4):e77-84

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