

POSTER 57

LOWER RISK OF RESISTANCE FOLLOWING SHORT-COURSE HAART COMPARED TO ZIDOVUDINE/SINGLE-DOSE NEVIRAPINE USED FOR PREVENTION OF HIV-1 MOTHER-TO-CHILD TRANSMISSION

Dara A. Lehman¹, Michael H. Chung², Jennifer M. Mabuka^{1,4}, Grace C. John-Stewart^{2,3}, James Kiarie⁵, John Kinuthia⁵, and Julie Overbaugh¹

¹Division of Human Biology, Fred Hutchinson Cancer Research Center, Seattle, WA, USA; ²Departments of Medicine, and ³Epidemiology, and ⁴Graduate Program of Pathobiology, University of Washington, Seattle, WA, USA; ⁵Department of Obstetrics and Gynecology, University of Nairobi, Kenya

Background: Antiretroviral resistance following short-course regimens used to prevent mother-to-child transmission has consequences for later treatment. Directly comparing the prevalence of resistance following short-course regimens of highly-active antiretroviral therapy (HAART) and zidovudine plus single-dose nevirapine (ZDV/sdNVP) will provide critical information when assessing the relative merits of these antiretroviral interventions.

Methods: In a clinical trial in Kenya, pregnant women were randomized to receive either ZDV/sdNVP or a short-course of HAART through 6 months of breastfeeding. Plasma samples were collected 3-12 months after treatment cessation, and resistance to reverse transcriptase inhibitors was assessed using both a sequencing assay and highly sensitive allele-specific PCR assays.

Results: No mutations associated with resistance were detectable by sequencing in either the ZDV/sdNVP or HAART arms at 3 months post-treatment, indicating that resistant viruses were not present in >20% of virus. Using allele-specific PCR assays for K103N and Y181C, we detected low levels of resistant virus in 75% of women treated with ZDV/sdNVP, and only 18% of women treated with HAART ($p=0.007$). Y181C was more prevalent than K103N at 3 months, and showed little evidence of decay by 12 months.

Conclusions: Our finding provides evidence that compared to ZDV/sdNVP, HAART reduces but does not eliminate NVP resistance.