Herpes Simplex Virus Type 2, Genital Ulcers and HIV-1 Disease Progression in Postpartum Women

Roxby, Alison C; Drake, Alison L; John-Stewart, Grace; Brown, Elizabeth R; Matemo, Daniel; Otieno, Phelgona A; Farquhar, Carey

Date: 2011

Abstract:

Background Co-infection with herpes simplex virus type 2 (HSV-2) has been associated with increased HIV-1 RNA levels and immune activation, two predictors of HIV-1 progression. The impact of HSV-2 on clinical outcomes among HIV-1 infected pregnant women is unclear. Methods HIV-1 infected pregnant women in Nairobi were enrolled antenatally and HSV-2 serology was obtained. HIV-1 RNA and CD4 count were serially measured for 12–24 months postpartum. Survival analysis using endpoints of death, opportunistic infection (OI), and CD4<200 cells μL, and linear mixed models estimating rate of change of HIV-1 RNA and CD4, were used to determine associations between HSV-2 serostatus and HIV-1 progression. Results Among 296 women, 254 (86%) were HSV-2-seropositive. Only 30 (10%) women had prior or current genital ulcer disease (GUD); median baseline CD4 count was 422 cells μL. Adjusting for baseline CD4, women with GUD were significantly more likely to have incident OIs (adjusted hazard ratio (aHR) 2.79, 95% CI: 1.33–5.85), and there was a trend for association between HSV-2-seropositivity and incident OIs (aHR 3.83, 95% CI: 0.93–15.83). Rate of change in CD4 count and HIV-1 RNA did not differ by HSV-2 status or GUD, despite a trend toward higher baseline HIV-1 RNA in HSV-2-seropositive women (4.73 log10 copies/ml vs. 4.47 log10 copies/ml, P=0.07). Conclusions HSV-2 was highly prevalent and pregnant HIV-1 infected women with GUD were significantly more likely to have incident OIs than women without GUD, suggesting that clinically evident HSV-2 is a more important predictor of HIV-1 disease progression than asymptomatic HSV-2.