Hormonal contraceptive use, herpes simplex virus infection, and risk of HIV-1 acquisition among Kenyan women. AIDS.

Abstract:

BACKGROUND: Studies of the effect of hormonal contraceptive use on the risk of HIV-1 acquisition have generated conflicting results. A recent study from Uganda and Zimbabwe found that women using hormonal contraception were at increased risk for HIV-1 if they were seronegative for herpes simplex virus type 2 (HSV-2), but not if they were HSV-2 seropositive. OBJECTIVE: To explore the effect of HSV-2 infection on the relationship between hormonal contraception and HIV-1 in a high-risk population. Hormonal contraception has previously been associated with increased HIV-1 risk in this population. METHODS: Data were from a prospective cohort study of 1206 HIV-1 seronegative sex workers from Mombasa, Kenya who were followed monthly. Multivariate Cox proportional hazards analyses were used to adjust for demographic and behavioral measures and incident sexually transmitted diseases. RESULTS: Two hundred and thirty-three women acquired HIV-1 (8.7/100 person-years). HSV-2 prevalence (81%) and incidence (25.4/100 person-years) were high. In multivariate analysis, including adjustment for HSV-2, HIV-1 acquisition was associated with use of oral contraceptive pills [adjusted hazard ratio (HR), 1.46; 95% confidence interval (CI), 1.00-2.13] and depot medroxyprogesterone acetate (adjusted HR, 1.73; 95% CI, 1.28-2.34). The effect of contraception on HIV-1 susceptibility did not differ significantly between HSV-2 seronegative versus seropositive women. HSV-2 infection was associated with elevated HIV-1 risk (adjusted HR, 3.58; 95% CI, 1.64-7.82). CONCLUSIONS: In this group of high-risk African women, hormonal contraception and HSV-2 infection were both associated with increased risk for HIV-1 acquisition. HIV-1 risk associated with hormonal contraceptive use was not related to HSV-2 serostatus.