

Increased risk of HIV acquisition among Kenyan men with human papillomavirus infection

Abstract:

Background Few data are available concerning the effect of human papillomavirus (HPV) infection on HIV acquisition. **Methods** HIV-seronegative, sexually active 18-24 year-old Kenyan men within a randomized trial of male circumcision provided penile exfoliated cells from two anatomical sites (glans/coronal sulcus, and shaft) at baseline. The GP5+/6+ PCR assay ascertained a wide range of HPV DNA types at the baseline visit. Risk of HIV infection [95% confidence interval (CI)] was estimated using Kaplan-Meier methods, and hazard ratios (HR) [95% CI] from proportional hazards models. **Results** Among 2,168 uncircumcised men with baseline HPV data, 1,089 (50%) were HPV DNA positive. Cumulative incidence of HIV infection by 42-months was 5.8% [95% CI 3.6, 7.9] in men with HPV-positive glans specimens versus 3.7% [1.8, 5.6] in men with HPV-negative glans specimens ($p=0.01$). Controlling for subsequent circumcision status, baseline HSV-2 serostatus, and sexual and sociodemographic risk factors, the HR of HIV infection in men with HPV-positive glans specimens was 1.8 [1.1, 2.9] compared to men with HPV-negative glans specimens. **Conclusion** Results suggest an independent, increased risk of HIV seroconversion among HPV positive men. If confirmed in other studies, HPV prevention could be another tool for HIV prevention.