V DNA testing in cervical exfoliated cells and tissue biopsies among HIV-positive women in Kenya.

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Abstract

HIV-positive women are infected with human papillomavirus (HPV) (especially with multiple types), and develop cervical intraepithelial neoplasia (CIN) and cervical cancer more frequently than HIV-negative women. We compared HPV DNA prevalence obtained using a GP5+/6+ PCR assay in cervical exfoliated cells to that in biopsies among 468 HIV-positive women from Nairobi, Kenya. HPV prevalence was higher in cells than biopsies and the difference was greatest in 94 women with a combination normal cytology/normal biopsy (prevalence ratio, PR = 3.7; 95% confidence interval, CI: 2.4-5.7). PR diminished with the increase in lesion severity (PR in 58 women with high-grade squamous intraepithelial lesions (HSIL)/CIN2-3 = 1.1; 95% CI: 1.0-1.2). When HPV-positive, cells contained 2.0- to 4.6-fold more multiple infections than biopsies. Complete or partial agreement between cells and biopsies in the detection of individual HPV types was found in 91% of double HPV-positive pairs. The attribution of CIN2/3 to HPV16 and/or 18 would decrease from 37.6%, when the presence of these types in either cells or biopsies was counted, to 20.2% when it was based on the presence of HPV16 and/or 18 (and no other types) in biopsies. In conclusion, testing HPV on biopsies instead of cells results in decreased detection but not elimination of multiple infections in HIV-positive women. The proportion of CIN2/3 attributable to HPV16 and/or 18 among HIV-positive women, which already appeared to be lower than that in HIV-negative, would then further decrease. The meaning of HPV detection in cells and random biopsy from HIV-positive women with no cervical abnormalities remains unclear.