

Impact of loop electrosurgical excision procedure for cervical intraepithelial neoplasia on HIV-1 genital shedding: a prospective cohort study

Huchko, M; Woo, V; Liegler, T; Leslie, H; Smith-McCune, K; Sawaya, G; Bukusi, EA; Cohen, C

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Abstract:

We sought to examine the impact of the loop electrosurgical excision procedure (LEEP) on the rate and magnitude of HIV-1 genital shedding among women undergoing treatment for cervical intraepithelial neoplasia 2/3 (CIN2/3). Prospective cohort study. Women infected with HIV-1 undergoing LEEP for CIN2/3 in Kisumu, Kenya. Participants underwent specimen collection for HIV-1 RNA prior to LEEP and at 1, 2, 4, 6, 10, and 14 weeks post-LEEP. HIV-1 viral load was measured in cervical and plasma specimens using commercial real-time polymerase chain reaction (PCR) assays, to a lower limit of detection of 40 copies per specimen. Presence and magnitude of HIV-1 RNA (copies per specimen or cps) in post-LEEP specimens, compared with baseline. Among women on highly active antiretroviral therapy (HAART), we found a statistically significant increase in cervical HIV-1 RNA concentration at week 2, with a mean increase of 0.43 log₁₀ cps (95% CI 0.03-0.82) from baseline. Similarly, among women not receiving HAART, we found a statistically significant increase in HIV-1 shedding at week 2 (1.26 log₁₀ cps, 95% CI 0.79-1.74). No other statistically significant increase in concentration or detection of cervical HIV-1 RNA at any of the remaining study visits were noted. In women infected with HIV undergoing LEEP, an increase in genital HIV shedding was observed at 2 but not at 4 weeks post-procedure. The current recommendation for women to abstain from vaginal intercourse for 4 weeks seems adequate to reduce the theoretical increased risk of HIV transmission following LEEP.