Effect of intrauterine device use on cervical shedding of HIV-1 DNA

Richardson, BA; Morrison, CS; Sekadde-Kigondu, C; Sinei, S; Overbaugh, J; Panteleeff, DD; Weiner, DH; Kreiss, JK
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Abstract:

OBJECTIVE: Hormonal contraception has been associated with an increased prevalence of cervical shedding of HIV-1 DNA among infected women. We conducted this study to evaluate the effect of the use of an intrauterine device (IUD) on the detection of HIV-1 DNA in cervical secretions. DESIGN: A prospective study of HIV-1-seropositive women undergoing IUD insertion at two public family planning clinics in Nairobi, Kenya. METHODS: Cervical swab samples were collected before IUD insertion and approximately 4 months thereafter for the detection of HIV-1-infected cells using polymerase chain reaction (PCR) amplification of HIV-1 gag DNA sequences. RESULTS: Ninety-eight women were enrolled and followed after IUD insertion. The prevalence of HIV-1 DNA cervical shedding was 50% at baseline and 43% at follow-up [odds ratio (OR) 0.8, 95% confidence interval (CI) 0.5-1.2]. There was no statistically significant difference between the baseline and follow-up shedding rates in a multivariate model that controlled for previous hormonal contraceptive use, condom use, cervical ectopy, friable cervix, cervical infections at an interim visit, and CD4 lymphocyte levels (OR 0.6, 95% CI 0.3-1.1). CONCLUSION: The insertion of an IUD did not significantly alter the prevalence of cervical shedding of HIV-1-infected cells. The use of IUDs, in conjunction with condoms, may be an appropriate method of contraception for HIV-1-infected women from the standpoint of potential infectivity to the male partner through exposure to genital HIV-1.