

Cervical and vaginal shedding of human immunodeficiency virus type 1-infected cells throughout the menstrual cycle

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Abstract:

Cervical and vaginal secretions from 17 women infected with human immunodeficiency virus type 1 (HIV-1) were evaluated daily through the course of one menstrual cycle for HIV-1 DNA (21-31 visits per woman). HIV-1-infected cells were detected in 207 (46%) of 450 endocervical swabs and 74 (16%) of 449 vaginal swabs. There was considerable variability in the percentage of positive swabs from each woman, ranging from 4% to 100% of endocervical swabs and from 0 to 71% of vaginal swabs. In multivariate analyses, plasma HIV-1 RNA was significantly associated with shedding of HIV-1-infected cells; each 1-unit increase in the log of plasma virus load was associated with a 5.6-fold increase in the odds of cervical shedding (95% confidence interval [CI], 2.1-14.8) and a 3.9-fold increase in the odds of vaginal shedding (95% CI, 2.1-7.2). There was no discernible pattern of genital tract shedding with phase of the menstrual cycle and no significant association with serum estradiol or progesterone levels.