Association between cervical shedding of herpes simplex virus and HIV-1.


Abstract

OBJECTIVE:

To investigate the association between the cervical shedding of herpes simplex virus (HSV) and HIV-1.

DESIGN:

A cross-sectional study on 200 women seropositive for both HSV-2 and HIV-1 was conducted in a family planning clinic at the Coast Provincial General Hospital, Mombasa, Kenya.

MAIN OUTCOME MEASURES:

Quantities of HSV DNA (types 1 and 2) and HIV-1 RNA as well as the presence or absence of HIV-1 proviral DNA in cervical secretions were determined and compared.

RESULTS:

There was a significant correlation between the quantities of HSV DNA and HIV-1 RNA in the cervical secretions of HSV-shedding women (Pearson’s $r = 0.24$, $P = 0.05$). A 10-fold increase in the quantity of cervical HSV DNA was associated with 1.35-fold higher cervical HIV-1-RNA levels (95% CI 1.00-1.81; $P = 0.05$), and with 1.36-fold greater odds of detection of HIV-1 proviral DNA (95% CI 1.05-1.75; $P = 0.02$).

CONCLUSION:

Higher levels of cervical HSV were associated with higher levels of expressed HIV-1 and with the more frequent detection of HIV-1-infected cells in cervical secretions. Prospective studies are needed to explore further the association between non-ulcerative cervical HSV reactivation and HIV-1 shedding. Such a relationship may have important implications for interventions designed to slow the spread of HIV-1.

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