Treatment of cervicitis is associated with decreased cervical shedding of HIV-1.


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Abstract

OBJECTIVE:

to determine whether cervical mucosal shedding of HIV-1 RNA and HIV-1 infected cells decreases following successful treatment of cervicitis.

DESIGN:

Prospective interventional study.

SETTING:

Sexually Transmitted Infections Clinic, Coast Provincial General Hospital, Mombasa, Kenya.

PARTICIPANTS:

Thirty-six HIV-1 seropositive women with cervicitis: 16 with Neisseria gonorrhoeae, seven with Chlamydia trachomatis, and 13 with non-specific cervicitis.

INTERVENTIONS:

Treatment of cervicitis. Main outcome measures: Levels of total (cell-free and cell-associated) HIV-1 RNA and presence of HIV-1 DNA (a marker for infected cells) in cervical secretions before and after resolution of cervicitis.

RESULTS:

After treatment of cervicitis, the median HIV-1 RNA concentration in cervical secretions was reduced from 4.05 to 3.24 log10 copies/swab (P = 0.001). Significant decreases in cervical HIV-1 RNA occurred in the subgroups with N. gonorrhoeae (3.94 to 3.28 log10 copies/swab; P = 0.02) and C. trachomatis (4.21 to 3.19 log10 copies/swab; P = 0.02). Overall, the prevalence of HIV-1 infected cells in cervical secretions also decreased after treatment, from 67% to 42% (odds ratio, 2.8; 95% confidence interval, 1.3-6.0; P = 0.009). Detection of infected cells was associated with higher mean HIV-1 RNA levels (4.04 versus 2.99 log10 copies/swab; P< 0.0001).

CONCLUSIONS:
Effective treatment of cervicitis resulted in significant decreases in shedding of HIV-1 virus and infected cells in cervical secretions. Treatment of sexually transmitted diseases may be an important means of decreasing the infectivity of HIV-1 seropositive women by reducing exposure to HIV-1 in genital secretions.

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