

Abstract:

OBJECTIVE: Although non-ulcerative sexually transmitted diseases (STD) and bacterial vaginosis are implicated as cofactors in heterosexual HIV-1 transmission, the mechanisms have not been defined. Recent in vitro data suggest that interleukin (IL)-10 may increase susceptibility of macrophages to HIV-1 infection. Therefore, we performed this study to assess whether non-ulcerative STD are associated with detection of IL-10 in the female genital tract. **METHODS:** Women with clinical pelvic inflammatory disease with or without cervicovaginal discharge were recruited from an STD clinic in Nairobi, Kenya. Endocervical and endometrial specimens were obtained for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* DNA detection, *Trichomonas vaginalis* culture, and CD4 and CD8 T-cell enumeration. Bacterial vaginosis was diagnosed by Gram stain. IL-10 was detected in endocervical specimens using enzyme-linked immunosorbent assay. Blood was obtained for HIV-1 serology. **RESULTS:** One hundred and seventy-two women were studied. *N. gonorrhoeae*, *C. trachomatis*, bacterial vaginosis, and *T. vaginalis* were detected in 38 (21%), 17 (9%), 71 (43%), and 22 (12%) women, respectively. Cervical IL-10 was detected more often in women with *N. gonorrhoeae* [adjusted odds ratio (AOR), 3.4; 95% confidence interval (CI), 1.4-8.4], *C. trachomatis* (AOR, 4.4; 95% CI, 1.2-15.6), and bacterial vaginosis (AOR, 3.1; 95% CI, 1.4-6.9) than in women without these infections. **CONCLUSIONS:** The association of non-ulcerative STD and bacterial vaginosis with increased frequency of IL-10 detection in endocervical secretions suggests a potential mechanism through which these infections may alter susceptibility to HIV-1 infection in women.