Vaginal Flora May Affect HIV RNA Concentrations

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CHARLESTON, S.C. — Certain vaginal isolates affect the quantity of HIV RNA in cervicovaginal lavage, a study suggests.

Hydrogen peroxide–producing lactobacilli, for example, were associated with a significant decrease in cervicovaginal lavage (CVL) HIV RNA concentrations, and *Trichomonas vaginalis*, *Prevotella bivia*, and *Mycoplasma hominis*. Other anaerobes were associated with increases in CVL HIV RNA concentrations, Jane Hitti, M.D., reported at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

Factors affecting the HIV RNA concentrations are important, because genital viral load is an important determinant of sexual and perinatal HIV transmission, she noted.

For the study, 38 HIV-positive women completed 163 study visits. Vaginal cultures, CVL, and plasma were collected at each visit for HIV RNA quantitation. Of 163 CVL samples, 95 had detectable HIV RNA, and the levels correlated significantly with plasma HIV RNA levels, said Dr. Hitti of the University of Washington, Seattle.

After adjustment for log plasma HIV RNA, the log difference in CVL HIV RNA was significant for H_2O_2 lactobacillus and *T. vaginalis*. Increased CVL HIV RNA concentrations were associated, although not significantly, with *M. hominis*, *P. bivia*, black gram negative rods, *Candida albicans*, and bacterial vaginosis or indeterminate flora.

Also, CVL HIV RNA concentrations were increased with higher vaginal concentrations of IL-8 in this study.

Several vaginal isolates appear to directly influence CVL viral load, and the effects appear to be independent of plasma viral load, she concluded, noting that an antibiotic treatment trial is underway to determine whether treatment for bacterial vaginosis and associated infections will decrease genital viral load.

"A very logical next step would be looking at ways to augment endogenous lactobacilli and looking at what effects that has," she said.

The prevalence of H_20_2-producing lactobacilli is lower than what has been reported among HIV-negative women, even in the presence of bacterial vaginosis, she explained. ■

Smoking Linked To *G. vaginalis* And *M. hominis*

CHARLESTON, S.C. — Smoking has been linked with the occurrence of bacterial vaginosis, but a recent study further elucidating its effects on microvaginal flora suggests that smoking is particularly associated with heavy growth of *Gardnerella vaginalis* and *Mycoplasma hominis*.

"I think at this point, investigations are needed to determine if smoking should be considered a modifiable risk factor for bacterial vaginosis," Harold C. Wiesenfeld, M.D., said at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

In the prospective cross-sectional study of 749 nonpregnant women, 56% were smokers, and most of them were daily smokers. Bacterial vaginosis was identified in 66% of the overall study population, compared with 69% of the smokers.

Heavy colonization with *G. vaginalis* was present in 72% of smokers vs. 64% of nonsmokers, and heavy colonization with *M. hominis* was present in 43% of smokers vs. 32% of nonsmokers.

Colonization with H_2O_2-producing lactobacilli was present in 33% of smokers vs. 41% of nonsmokers, said Dr. Wiesenfeld of the department of ob.gyn. and reproductive sciences at the University of Pittsburgh.

The women studied were recruited from an STD clinic, family planning clinics, and ambulatory gynecology clinics. All underwent a standardized interview and physical examination that included a Gram's stain, *Trichomonas vaginalis* culture, and semiquantitative cultures of vaginal fluid for aerobic and anaerobic organisms.

Additionally, cervical samples were cultured for *Neisseria gonorrhoeae* and tested by polymerase chain reaction for *Chlamydia trachomatis*.

Smoking in this study was not associated with gonorrhea, *C. trachomatis*, or *T. vaginalis* infection.

—Sharon Worcester