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Viral Shedding

Frequent genital herpes simplex virus 2 shedding in immunocompetent women

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ABSTRACT

Reactivation of herpes simplex virus type 2 (HSV-2) occurs intermittently as perceived clinically and by viral culture. We performed a series of studies to evaluate the frequency and anatomic pattern of HSV-2 reactivation using both viral isolation and HSV PCR assay. Daily samples of genital secretions were obtained from 27 HSV-2 seropositive women; a subset of subjects obtained samples while receiving oral acyclovir 400 mg PO twice a day. HSV DNA was detected in genital swab specimens on 28% of 1410 days compared with 8.1% of days by viral isolation. Eleven of 20 women had HSV DNA detected on >20% of days, 4 on >50%, and 2 on >75% of days; in contrast, none of women shed on more than 21% of days by viral isolation. The daily administration of oral acyclovir promptly reduced the frequency of HSV DNA detection by a median of 80%. Within 3-4 days of discontinuing daily acyclovir, HSV DNA again appeared in the genital area. Biopsies showed no evidence of latent HSV DNA in genital mucosa. HSV-2 shedding in the genital mucosa occurs much more frequently than previously appreciated. This frequent reactivation likely plays a role in the continued epidemic spread of genital herpes worldwide.

Virologic characteristics of subclinical and symptomatic genital herpes infections

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Abstract

BACKGROUND: The frequency, pattern, anatomic sites and predictive factors for subclinical (asymptomatic) shedding of herpes simplex virus (HSV) in the genital tract have not been well characterized.

METHODS: We followed on a daily basis the clinical and virologic course of HSV in 110 women with genital herpes.

RESULTS: Thirty-six women (55 percent) with HSV-2, 16 (52 percent) with HSV-1 and 2 and 4 (29 percent) with HSV-1 shed subclinically. The mean rate of shedding was 2 percent of days in women with genital HSV-2. The mean duration of viral excretion during subclinical shedding episodes was 1.5 versus 1.8 days during symptomatic episodes. HSV isolation from multiple anatomic sites in the genital tract

occurred in 17 percent of subclinical versus 22 percent of symptomatic episodes. Subclinical shedding of HSV occurred more frequently within 7 days of a symptomatic recurrence. The risk of subclinical shedding increased with the frequency of symptomatic recurrences: women who had more than 12 recurrences per year had a significantly higher subclinical shedding rate compared to women with no symptomatic recurrences, odds ratio 3.3 (95 percent confidence interval 1.4, 7.9), and with recent acquisition of genital herpes, odds ratio 1.9 (95 percent confidence interval 1.1, 3.0).

CONCLUSIONS: Subclinical or unrecognized shedding of HSV was common, and constituted nearly one-third of the total days of HSV reactivation in the genital tract. Subclinical HSV shares similar virologic features with clinical HSV shedding. Women with frequent symptomatic recurrences tend to also have frequent subclinical shedding and may be at high risk for transmitting HSV.



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Modified: August 26, 2002