Need for Diagnostic Screening of Herpes Simplex Virus in Patients with Nongonococcal Urethritis

The prevalence of various microorganisms known to cause nongonococcal urethritis, including herpes simplex virus (HSV), was evaluated. The findings suggest that HSV can be a significant etiological agent in nongonococcal urethritis (NGU) and that the necessary laboratory investigations should be performed for all patients with clinical symptoms of NGU.

Nongonococcal urethritis (NGU) ranks as one of the most common sexually transmitted diseases (STDs) in men. It is clinically characterized by mucoid or purulent discharge accompanied by dysuria or itching at the distal end of the urethra. In most clinics, a diagnosis of NGU is confirmed by the absence of gram-negative diplococci on gram-stained preparations, a negative gonococcal culture, and the detection of >5 polymorphonuclear leukocytes on a stained smear of urethral exudate or urinary sediment. The main organisms that are known to cause NGU are Ureaplasma urealyticum, Mycoplasma genitalium, Mycoplasma hominis, and Trichomonas vaginalis. At present, very little is known about the etiological role of HSV in patients with NGU. In our study, we evaluated the prevalence of the various organisms known to cause NGU, including herpes simplex virus (HSV).

An etiologic agent was found for 71 (29.8%) of 238 male patients with symptoms of urethritis who attended our clinic. Neisseria gonorrhoeae was isolated from 3 (4.2%) of the 71 patients, whereas the typical diplococci were not isolated from 68 patients (95.8%). Chlamydia trachomatis was isolated from 35 (51.5%) of the 68 patients; U. urealyticum, 31 (45.6%); M. hominis, 9 (13.2%); and T. vaginalis, 1 (1.5%; figure 1). Antigen detection testing for HSV was performed for only 141 of our patients, whereas serum samples from 202 patients were tested for type-specific antibodies. Antigen detection testing revealed HSV infection in 17 (12%) of the 141 patients, 15 of whom did not have genital lesions. Of the 17 patients, 6 were seropositive for HSV type 1 (HSV-1), 6 were seropositive for HSV type 2 (HSV-2), and 5 were seronegative for HSV-1 and HSV-2. Analysis of serum samples that were tested for type-specific antibodies showed that 25 (12%) of 202 male patients were seropositive for HSV-2. Only 5 (20%) of these patients had a history of genital lesions. One hundred fifty-four (76%) of the 202 male patients were seropositive for type-specific antibodies to HSV-1.

NGU is a common disease in male patients attending STD clinics. In accordance with the current literature [1], we did not find an etiologic agent in most cases. In the cohort of male patients with NGU whom we examined, C. trachomatis and U. urealyticum were the most common pathogens isolated when an etiologic agent could be detected.

Because we found that unrecognized genital infections due to HSV were common among male patients who attended our STD clinic, we included genital HSV detection in our analysis. It has been estimated that about 60% of patients infected with HSV-2 have atypical manifestations of the disease that are unrecognized or underdiagnosed by the physician and the patient [2]. These symptomatic patients with unrecognized disease exhibit shedding of the virus, which can occur with or without genital ulcerations or a history of the classic genital lesions. Therefore, in contrast to what has been previously accepted in the literature, genital lesions are not present in all cases of herpesvirus infection. In our study, antigen detection testing revealed that 17 (12%) of 141 patients with symptoms of NGU who attended our clinic were positive for HSV. Fifteen (88%) of these symptomatic patients did not have genital lesions.

References


Figure 1. Etiologic agents isolated from patients with nongonococcal urethritis who attended a sexually transmitted diseases clinic in Israel.
When serum samples from 202 patients were tested for typespecific antibodies, we were able to distinguish past HSV-1 infection from HSV-2 infection. This finding is important as the course of the disease and its recurrence differs in HSV-1 infection and HSV-2 infection. We found that 25 (12%) of 202 patients were seropositive for HSV-2 and 154 (76%) of 202 patients were seropositive for HSV-1. These results indicate that serological examinations can be used for screening of patients with irritative voiding symptoms. Antigen detection testing should then be performed to confirm active HSV NGU.

Our findings suggest that HSV can be a significant etiologic agent of NGU, and in our opinion, necessary laboratory investigations should be performed for all patients with clinical symptoms of NGU who attend STD clinics.

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References