Clinical Features of Herpes Genitalis


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Summary

The clinical and laboratory findings in 81 patients with primary and recurrent herpes genital infections have been described. By careful appraisal of the gross lesions, the clinical course of the disease, and the laboratory findings, one can usually distinguish between primary and secondary infection. A good correlation was noted between the clinical impression of primary or recurrent disease and the laboratory diagnosis of primary or recurrent disease. Of 67 patients with positive viral cultures, nine were type 1 herpesvirus (13.4%) and 58 were type 2 herpesvirus (86.6%). Fourteen of 81 patients with a clinical diagnosis of herpesvirus genital infection had negative cultures obtained from the vulva and cervix (17.3%). Our prior clinical impression that prior type 1 infections frequently, but not uniformly, offered some degree of protection against subsequent type 2 herpesvirus infections was confirmed. Although the vast majority of patients with clinical herpesvirus infections demonstrate predictable laboratory findings, notable exceptions have been demonstrated.

Introduction

Herpes genitalis is being seen with increasing frequency today. The incidence of this infection is far greater than is generally suspected and prior studies in Houston (7) have indicated that approximately 9% of patients seen in the private practice of gynecology and 22% of patients seen in the gynecology clinic at the city-county hospital have serological evidence of prior herpesvirus type 2 infection. The prevalence of prior infection is even higher in the health department social hygiene clinic (6). These studies have confirmed the venereal nature of this infection (6) as well as demonstrated the large percentage of women with concomitant Hemophilus vaginalis vaginitis, trichomoniasis, and condyloma acuminatum. These studies have also indicated that the majority of patients with primary genital herpes infections are teenage girls and unmarried women. The current presentation reviews the clinical features of primary and recurrent herpes genitalis and their relationship to the laboratory findings in 81 patients seen in the private practices of 2 of the authors over a 3.5-year period of time.

Materials and Methods

Eighty-one patients with a clinical diagnosis of herpes genitalis were seen in the private practices of 2 of the authors during a period of time from January 1969 through April 1972. In all cases, cultures were obtained from vulvar lesions and in 30 women concomitant cultures were also taken from the cervix. Sterile cotton-tipped swabs were used to collect vesicular fluid from ruptured vesicles or secretions from the bases of ulcerated lesions. The swabs were then dropped in Eagle's medium containing 2% fetal bovine serum and antibiotics. The specimens were immediately transported to the virology laboratory and cultured according to a technique previously described (1, 9). Blood was also drawn simultaneously from these patients and at varying intervals of time thereafter (2 weeks and longer). Antibody titers to herpesvirus types 1 and 2 were determined simultaneously by a microtiter technique described by Rawls et al. (8). The results of the cultures and antibody studies were correlated with the clinical picture seen in the women. Patients were diagnosed as having primary or recurrent disease on the basis of a prior history of herpes genitalis and by the clinical course of the disease. The results of cultures and serially studied blood were also utilized to classify patients as having primary or recurrent disease. Patients with positive virus cultures not demonstrating antibodies to the type 2 virus and subsequently showing development of antibodies against the type 2 virus were designated as having primary disease. The patients who had a positive titer at the time of the initial culture were diagnosed as having recurrent disease.

Clinical Features of Primary Herpes Infections

Herpes genitalis is generally acquired through sexual contact, with the symptoms appearing within 3 to 7 days following exposure (6). This incubation period has been well established by clinical observation (6) and animal experimentation (4). It is apparent from the number of patients with antibodies against the type 2 virus, who re-
Clinical Features of Recurrent Herpes Genitalis

Although the symptomatology associated with primary herpes infections is much more severe, the recurrent disease may be more distressing to the patient because of repeated recurrence. Not all patients who have primary herpes genitalis will develop recurrent episodes of this infection. Some patients never experience a 2nd infection, whereas others have repeated flare-ups for many years. Factors that are said to precipitate recurrences of infection include temperature elevation, emotional disturbance, premenstrual tension, or severe systemic disease. Our own experience suggests that most recurrences are unrelated to such factors.

Recurrent lesions are often inconspicuous and difficult to identify. They may be entirely overlooked upon casual inspection, especially if the lesions are minute and few in number. The infection involves the same sites as described for the primary infection. The individual vulvar lesions are vesiculoulcerative in type (Fig. 6 and 7). They may vary from 1 to 5 mm in diameter and have an erythematous base. They frequently develop in small localized patches. The clear vesicular fluid within the vesicles rapidly becomes turbid and the vesicles rupture within 24 to 48 hr. The time of their rupture will depend upon their location, those on mucosal surfaces rupturing much more rapidly than those on the skin surfaces. Following rupture of the vesicles, superficial ulcers will be noted (Fig. 8). Several lesions may coalesce to form larger vesicles or bullae and subsequently a large ulceration. Healing will usually take place within 7 to 10 days following onset of the disease leaving the vulva with a completely normal appearance. Secondary bacterial infection may delay healing and give rise to inguinal lymphadenitis. Lesions of the cervix (Fig. 9) and vagina are similar to those noted in these areas with primary infection. Patients with recurrent infections complain of vulvar burning and pain lasting from 7 to 10 days. Burning on urination is also a distressing symptom. The severity of these symptoms is much less than that noted with the primary infection. Fever is rarely present.

Extragenital Sites of Infection

Herpesvirus type 2 infections may affect skin and mucosal sites other than the genitalia. It is generally believed that most infections below the umbilicus arise from type 2 herpesvirus infection and infections above the umbilicus arise from the type 1 virus (2). We have, however, observed lesions of the genitalia caused by type 1 virus and lesions of the oropharyngeal area caused by the type 2 herpesvirus (3). We have seen type 2 herpesvirus infections involving the buttocks, the knee, the back, and the lower abdomen as well as the fingers of the patient.

Correlation of Laboratory and Clinical Data

Of the 81 patients studied, positive virus cultures were obtained in 67, and in 14 individuals the cultures were negative despite the clinical impression of a genital herpesvirus infection. Of the patients with negative cultures, 1 was believed to have primary infection (this culture was taken 17 days after the onset of symptoms), and 13 patients were thought to have recurrent herpesvirus infections. Antibody studies suggested a prior type 1 in-
Infection in 1 patient and prior type 2 infection in 12 of these patients.

Of the 67 patients with positive viral cultures, 9 were found to have type 1 herpesvirus and 58 had type 2 herpesvirus. Of the 9 patients with the type 1 genital infection, 7 cases were primary and 2 were recurrent infections. Of the 58 patients with type 2 herpesvirus infection, 34 were diagnosed as having primary infection and 23 had recurrent infection. In 1 patient, neither the clinical nor laboratory data were conclusive as to whether this represented a primary or recurrent infection. (A positive culture was obtained in March 1969 and the 1st blood was studied in July 1970 and demonstrated a positive titer to the type 2 virus.) Thus, of the 67 women with positive cultures, 41 were diagnosed as having primary genital herpesvirus infections and 25 had recurrent herpes genitalis infections.

In 30 patients, cultures were taken from the cervix concomitantly with vulvar cultures. Virus was recovered from the vulva of all 30 women. Virus was grown from the cervical swabs in 24 of these patients (4 type 1 and 20 type 2 herpesvirus), and in 6 patients negative cultures were obtained. Of the 24 patients with positive cultures, 16 had primary infections and 8 had recurrent infections. In the 6 patients with negative cultures, 4 patients had primary infections, 1 had a recurrent infection, and in 1 patient primary or secondary infection could not be diagnosed.

Nine women offered a definite history of lesions being present on the penises of their consorts. In the remaining patients no history was available as to whether the sex partner had a recent genital herpesvirus infection.

An attempt was made to correlate the clinical diagnosis with the serum antibody titer diagnosis. On the basis of absence of antibodies to the infecting virus at the time when the culture was taken, with subsequent rise of the appropriate titer, a diagnosis of primary herpes infection was made. If an elevated antibody titer was present at the time when the initial culture was taken, the case was diagnosed as being a recurrent infection. At the same time, a clinical impression was made on the basis of the objective and subjective findings. In 27 cases clinically diagnosed as primary herpes genital infection, there was good correlation between the clinical impression and laboratory data. In 20 cases diagnosed clinically as having recurrent infection, there was good correlation with the laboratory data. In 14 cases, the diagnosis of primary or recurrent infection was made on the basis of a positive culture and titers, the clinical diagnosis being unclear. In 2 patients with a clinical diagnosis of primary herpes genitalis infection, no change was noted in the antibody titer when a second blood was drawn several months later. There was no apparent development of antibodies against the type 2 virus. In 2 patients, a clinical diagnosis of primary herpesvirus infection was made. Blood drawn when the initial positive culture to the type 2 virus was obtained demonstrated the presence of antibodies against the type 2 virus, suggesting that this was a recurrent infection. In 1 other case with a clinical diagnosis of recurrent infection, the changes in titer suggested that this was a primary type 2 infection. No antibodies against either the type 1 or type 2 herpesvirus were present in the patient's blood at the time that a positive culture for the type 2 herpesvirus was obtained from the vulva. One month later, a positive titer against herpes type 2 was noted in this patient's blood. In summary, 47 of 67 patients with positive cultures of either type 2 or type 1 herpesvirus demonstrated a good correlation between the clinical impression and the "titer diagnosis." In 5 patients, there was no correlation between the clinical and laboratory impressions. In 15 women, there was insufficient clinical data recorded to evaluate this correlation.

In the 34 patients diagnosed as having primary type 2 herpesvirus infections, 6 were found to have serological evidence of prior type 1 infection. In 2 of these patients, the clinical picture was extremely severe and did not differ in any way from that seen in patients who did not have evidence of prior type 1 infections. Twenty-eight of these patients showed no evidence of prior type 1 infection on study of their blood. Two of these patients had very mild clinical courses, and 26 demonstrated the classical picture of primary herpesvirus infection of the genitalia.

References
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Fig. 1. Primary herpes. Multiple ulcerated areas are scattered over the labia majora, labia minora, and the perineum. A red areola is noted around many of the ulcerations.

Fig. 2. Primary herpes, 1 week following development of infection. Multiple shallow painful ulcers are noted.

Fig. 3. Primary herpes. Numerous ulcerated, indurated papules are seen. These were exquisitely tender.
Fig. 4. Primary herpes. Diffuse ulceration of the vulva is noted. This patient also has condylomata acuminata of the vulva as well as *trichomonas vaginalis* vaginitis.

Fig. 5. Primary herpes infection involving the cervix. *Arrow,* a fungating necrotic mass on the exocervix.

Fig. 6. Recurrent herpes. *Arrow,* a single intact vesicle. On the inner aspect of the adjacent labia minora, several shallow ulcers are noted.

Fig. 7. Recurrent herpes. *Arrow,* several coalescent vesicles containing turbid fluid.
Fig. 8. Recurrent herpes. Arrows, several of many superficial painful ulcers noted following rupture of the vesicles.

Fig. 9. Recurrent herpes. Arrow, an ulcerated area on the portio of the cervix.
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