Inoculation Herpes Simplex Virus Infections in Patients with AIDS: Unusual Appearance and Location of Lesions

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Two patients with AIDS developed protracted infection due to autoinoculation of herpes simplex virus in the great toe and the external ear, respectively, both unusual areas for inoculation. The appearances of the lesions were also unusual; severe hyperkeratosis was noted in both cases and a mass lesion in the external ear in one case. Both patients’ conditions responded to acyclovir, although one patient required amputation of a digit due to intractable pain. In each case, the diagnosis was delayed despite the presence of mucocutaneous lesions, resulting in inappropriate treatment and prolonged discomfort. Inoculation disease due to herpes simplex virus should be suspected in patients with AIDS who have unusual skin lesions, particularly if oral and/or perianal lesions are also present.

Case Reports

Case 1

A 24-year-old male with AIDS (CD4 lymphocyte count, 15/mm³) and a history of injection drug use developed painful, swollen, tender fingers and lesions on his left nasolabial fold and lower lip. Incision and drainage of the digital lesions resulted only in intensified pain and swelling. Subsequently, he noted increasingly painful swelling of his left great toe. The patient reported biting at his fingers and picking at them with the needles he used to inject drugs but denied rectal intercourse and a history of herpetic lesions. Physical examination revealed crusting lesions on his left nasolabial fold and lower lip; hyperkeratotic, tender lesions with necrotic fissured crusts on multiple digits; a 1-cm perianal ulcer; and a swollen, erythematous, tender left great toe with purulent drainage.

Therapy with intravenous acyclovir was begun for presumed HSV infection with herpetic whitlow. Viral cultures of the lip and toe lesions were positive for HSV type 1, whereas the perianal lesion yielded HSV type 2. The facial and rectal lesions cleared after 5 days of therapy. The finger and toe lesions were less painful by that time, and there was visible improvement in the hyperkeratosis by 12 days. The patient completed a 21-day course of therapy with acyclovir, and 2 weeks later the digital lesions had resolved.

Case 2

A 23-year-old HIV-seropositive man had serous drainage from his right ear and an ulcerated hyperkeratotic lesion on his left index finger. Over a month, an ulcerated lesion developed on the superior aspect of the pinna of the right ear and extended to the scalp, the auditory canal, and the entire external ear; there was decreased hearing in the right ear on a bedside examination. The patient noted that he used his index finger to clean his ear. There were no perianal, genital, or oral ulcers. CT examination of the temporal bones revealed a soft-tissue density in the external canal, with opacification of the mastoid air cells (figure 1). After no response following 1 week of treatment with intravenous cefazolin, a biopsy of the right ear lesion revealed ulcerated skin and granulation tissue and cytological changes consistent with viral infection, and a viral culture was positive for HSV type 2. After 2 weeks of therapy with intravenous acyclovir (10 mg/kg every 8 hours), the drainage had ceased, the ulceration had healed, and the external canal had cleared. The finger lesion became increasingly painful, and the ulceration did not change with administration of intravenous acyclovir. An amputation was performed at the distal interphalangeal joint, and culture of the interoperative specimen yielded HSV type 2. The patient continued to receive oral acyclovir (400 mg twice a day) and died of CNS toxoplasmosis 9 months later.

Discussion

Cutaneous inoculation of HSV from mucosal lesions can occur at sites of damaged skin other than the digit [7–9].
Figure 1. A CT scan of the head of patient 2 reveals extensive soft-tissue swelling of the pinna of the right ear and mass extension into the auditory canal (arrow).

Recurrent eruptions are usually self-limited. In our patients, nonhealing lesions were present in unusual locations. The purulence seen in the great toe of patient 1 and the ulcerated mass on the external ear of patient 2 resulted from inoculation of virus from typical HSV lesions.

The diagnosis of herpetic whitlow is suggested clinically and can be confirmed by direct fluorescent antibody staining, viral culture, and biopsy with histologic examination. The presence of oral or genital lesions should lead to the consideration of HSV as the causative agent of unusual cutaneous lesions in HIV-infected patients (patient 1), although mucous membrane lesions may not always be present (patient 2). Aspiration or swabbing of the lesion for viral culture or antibody staining should be considered early to obviate the need for biopsy of this already extremely painful lesion.

In the HIV-negative patient, antiviral therapy is not required for the resolution of whitlow. However, in our cases, resolution did not occur without antiviral therapy. A course of acyclovir should certainly be attempted prior to consideration of amputation. A longer duration of therapy may be required for resolution of digital or other cutaneous lesions as compared to that required for resolution of oral, rectal, or genital lesions (as in patient 1). The failure of the treatment administered to patient 2 may have been due to an acyclovir-resistant virus, although the concurrent ear lesion resolved and antiviral susceptibility tests were not performed.

In conclusion, in HIV-infected patients inoculation of distant cutaneous sites with HSV may result in unusual-appearing lesions in atypical sites. The diagnosis of herpetic infection should be considered on the basis of the appearance of more typical herpetic lesions that may also be present. In contrast to treatment of whitlow in immunocompetent patients, antiviral therapy appears to be necessary for resolution of the lesions. For resolution of digital and cutaneous lesions, a longer course of therapy may be required than for coexisting oral, genital, or rectal lesions. Amputation should be considered only if there is intractable pain after a prolonged course of therapy. Failure of acyclovir therapy administered to an HIV-infected patient with refractory herpetic whitlow may suggest acyclovir-resistant HSV infection.

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References