Destructive Mucocutaneous Phagedenic Herpes Simplex Virus Infection in an HIV-Infected Patient Who Had a Partial Response to Interferon and Ultraviolet Rays

A 40-year-old HIV-infected homosexual man was admitted to our division in March 1994 for treatment of a herpes simplex virus (HSV) hemorrhagic-ulcerative lesion; there were scabs in the nasal cavity (which had destroyed the cartilage), on the perinasal skin, on the upper lip (mostly on the right side), and on the right cheek (figure 1). A similar lesion appeared on the third finger and at the thenar eminence of the right hand (figure 2). The infection had first occurred in 1991 at the right nostril, and since then it had periodically become more acute despite administration of acyclovir, which had always been effective, even in the acute phases.

The patient told us that at the end of 1993, the therapy had become ineffective and the lesion had spread to the upper lip and to the third finger of the right hand. A biopsy carried out at that time showed evidence (as stated in the pathology report) of a "chronic granulomatous and acute ulcerative inflammatory process with some scattered huge mononuclear cells due to the cyto-megalovirus [CMV] cytopathic effect." We started ganciclovir treatment but noted no improvement in his condition; the manifestations later regressed when foscarnet was administered. Subsequently, however, the lesions got worse, and the patient was admitted to our division. Laboratory tests revealed serious immunodepression. CMV antigen (pp65) was found in 1,700 peripheral blood mononuclear cells, and CMV (IE-1) was found in 212 peripheral blood mononuclear cells; both of these findings were remarkable.

Examination of a scraping from his face and specific Giemsa-stained tampons showed the presence of bacterial colonization, nuclear dust, and degenerating balloon-like cells suggestive of herpes infection. Cultures confirmed the HSV infection. Foscarnet and then cytosine arabinoside were administered but did not lead to improvement. A new erosive but superficial lesion with polycyclical and prominent borders on the right upper dental arch was biopsied. Histology revealed ulcerative hyperkeratosis with polynuclear skin cells whose nuclei were infected with HSV type 1 (HSV-1) and HSV-2. Many cytomegalic cells infected by specific antigens were found in the corion. Foscarnet was readministered but then replaced with acyclovir (without success) because of renal impairment. Since the mucocutaneous lesion was spreading, lymphohlastoid interferon (3 μIU on alternate days and 1.5 μIU per day topically) was administered, resulting in partial improvement. Afterward the patient was treated with ultraviolet (UV) rays from a sunlamp, resulting in noticeable improvement.

The case we have just described had some peculiarities. First was the extension of the mucocutaneous lesions and their progressive destructive development. In addition, the self-contamination might have taken place during the first phases of the infection. We diagnosed the HSV infection after cutaneous tampons were found to be HSV antigen-positive and polynuclear cells positive for HSV-1 and HSV-2 were revealed by biopsy of oral cavity specimens. The facts that cytomegalic cells were found and immunohistochemical techniques were simultaneously positive for CMV enabled us to diagnose both an HSV phagedenic ulcer and a CMV infection.

We would like to draw attention to the antiviral resistance of the most serious herpetic infections in HIV-infected patients [1]. The condition of the patient we have described was clinically resistant to acyclovir and foscarnet. Since our patient refused treatment with antiretroviral drugs, we decided to treat him with interferon, and improvement was noted after a few days. We thought it strange that the left side of his face was healing better than the...
Right and ascribed this to the fact that the patient, confined to bed, was directly hit by rays of the sun on the left side. Therefore, we exposed the lesions to UV rays from a sunlamp.

Since interferon increases the resistance to cellular viral penetration and since UV rays slow down cellular replication by forming photo adducts on the DNA, we theorize that the presence of both of them can inhibit viral replication inside the keratinocytes. In the past, UV rays combined with photodynamic compounds were used to treat cutaneous herpetic infections [2]. However, researchers soon gave up on that method since it was not useful and since specific antiviral drugs were being introduced. Since HSV infections in HIV-infected patients are often acyclovir resistant and since foscarnet is rather toxic, we suggest that therapy with interferon and UV rays might yield good results. However, further experiences with such treatment will be necessary to determine whether it is effective or not.

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References

Supraglottitis Due to Herpes Simplex Virus Type 1 in an Adult

Cases of viral supraglottitis are rare. A review of the literature yielded two cases in children—a 21-month-old infected with para-influenza virus type 3 and a 3.5-year-old infected with influenza virus type b [1]—and one case in an adult that was secondary to infection with herpes simplex virus type 1 (HSV-1) [2]. We describe a case of HSV-1 supraglottitis in an adult.

A 31-year-old woman was brought to the emergency department because of "bizarre behavior" that had started that morning. She was found hitting the wall, shouting at her family, and attempting to run out of her house. Her medical history was significant for hypothyroidism diagnosed 10 days prior to admission, for which she was being treated with l-thyroxine. She denied any drug use and subsequently tested negative for HIV during this admission.

In the emergency department, the patient had a temperature of 99.8°F, a pulse rate of 98, and a respiratory rate of 18. Physical examination revealed a muffled voice, drooling of her saliva, and an edematous soft palate, throat, and uvula. Her thyroid gland was minimally enlarged. Within 1 hour, respiratory distress developed, and the patient was intubated. A roentgenogram of the neck yielded two cases in children—a 21-month-old infected with parainfluenza virus type 3 and a 3.5-year-old infected with influenza virus type b [1]—and one case in an adult that was secondary to infection with herpes simplex virus type 1 (HSV-1) [2]. We describe a case of HSV-1 supraglottitis in an adult.

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The patient had a WBC count of $19.6 \times 10^9/\mu L$, a hemoglobin level of $11.8 $ g/dL, and a normal creatinine level. Serum chemistry analysis was notable for mild transaminitis, with a creatinine phosphokinase level of 579 U/L. Results of thyroid function tests were consistent with hypothyroidism, with a serum thyroxine level of 1.0 $ \mu g/dL and a thyroid-stimulating hormone level of 152 $ U/mL. Her arterial blood gas determination, cardiogram, and chest roentgenogram were normal. Cultures of a throat specimen and of blood showed no growth. Results of a head CT scan with contrast medium were normal. Analysis of CSF obtained by a lumbar puncture revealed no WBCs and normal levels of protein and glucose. The patient was treated for acute supraglottitis with ceftriaxone and clindamycin.

On hospital day 9 she underwent direct laryngoscopic examination and tracheostomy, as she had remained intubated with no improvement in her condition. The examination showed marked pharyngeal and supraglottic edema. A smooth polypoid mass measuring 2.5 cm $ \times $ 2 cm was seen and biopsied. No vesicles or ulcerations were noted. Examination of the biopsy specimen showed an acute inflammatory exudate mixed with necrotic squamous epithelial cells. Cells that had opaque nuclei with margination of the chromatin and multinucleated giant cells (findings consistent with herpes virus infection) were seen. Viral cultures were positive for HSV-1. Bacterial cultures yielded methicillin-resistant Staphylococcus aureus. Therapy with acyclovir was started. Vancomycin therapy for a possible superimposed infection was also begun. The patient's symptoms abated promptly after initiation of therapy. Findings on repeated laryngoscopy and CT 9 days later were unremarkable. She completed a 21-day course of acyclovir therapy and was successfully decannulated. Results of her liver function tests returned to normal once acyclovir therapy was stopped.