Diagnosis: Chronic cutaneous verrucous varicella-zoster infection

Chronic verrucous and ecthymatous cutaneous manifestations of varicella-zoster virus (VZV) infection in patients with HIV-1 infection have been described previously [1–8]. The present case was particularly unusual for both the number and size of the lesions (figures 1 and 2). Of the two types of presentations, verrucous lesions are more common and occur in patients with very low CD4 lymphocyte counts (<100/mm³). These lesions tend to occur 4 months to 2 years after classic herpes zoster infection but may also occur without a preceding vesicular stage. Chronic cutaneous verrucous VZV lesions are highly associated with acyclovir resistance following suboptimal or prolonged acyclovir therapy. Chronic verrucous VZV infection has also been described in association with other immunocompromised states such as acute lymphocytic leukemia.

Dermatopathologic features of chronic VZV infection include epidermal proliferation (hyperkeratosis and acanthosis), dermal mononuclear infiltrates and RBC extravasation, and epidermal and dermal necrosis. Coinfections with molluscum contagiosum virus, Mycobacterium avium complex, or Candida and Pityrosporum species have been reported [3, 7]. It is remarkable that associated human papillomavirus infection has not been demonstrated, either by histology or immunochemistry [7]. The pathogenesis of chronic VZV infection is unknown. Recently, investigators proposed a mechanism of altered gene expression, leading to decreased synthesis of major VZV envelope glycoproteins gE and gB and resulting in a more indolent infection [8].

In the present case, the diagnosis of VZV infection was established by the presence of multiple multinucleated giant cells on biopsy of a representative lesion and by positive immunocytochemical staining for VZV. Viral culture of a skin lesion obtained after 2 days of foscarnet therapy was negative. Our patient’s condition improved significantly, with sloughing of the verrucous lesions over the first 3–4 days of therapy with intravenous foscarnet (120 mg/[kg·d]).

Foscarnet was the antiviral agent of choice for this patient, as it is active against both VZV and CMV. Current guidelines for the treatment of recurrent herpes zoster infection in an immunocompromised host suggest the intravenous administration of 7.5–10 mg/kg of acyclovir three times daily for 7–10
days. In cases of poor response, the recommendation is to proceed with intravenous foscarnet therapy until complete healing is achieved [9]. In the presence of verrucous cutaneous lesions, a skin biopsy specimen should be sent for bacterial, viral, fungal, and mycobacterial cultures.

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References