Unusual presentation of chickenpox in a renal transplant patient

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Introduction

Chicken pox is a relatively common viral infection that rarely causes diagnostic difficulty under normal circumstances. But it has been noted that this common disease can present in atypical ways in immuno-compromised individuals. This has been mostly reported in HIV patients. In Sri Lanka since the number of immunosuppressed individuals both due to disease as well as a result of treatment are rapidly increasing, it would be of much importance for the dermatologists to be aware of these unusual presentations in order to avoid preventable complications.

Case

We report a 23-yr old male who had undergone a kidney transplant due to Alports syndrome. He presented to the Dermatology Clinic Kandy with a widespread eruption of skin coloured warty papules and plaques. One month after the transplant operation patient had developed an acute generalized blistering eruption associated with high fever which had been managed as chicken pox. He had been treated with the standard dose of intravenous aciclovir for 7 days followed by oral aciclovir for a further 7 days. By the end of 2 weeks only the post inflammatory pigmentary changes and a few scars had remained. Within 1 week of treatment completion the patient had noticed a sudden eruption of skin colored lesions associated with itching and burning, and high fever.

Examination revealed flesh coloured flat topped warty papules distributed in a generalized manner but mostly concentrated on the face. There were no blisters or erosions and no significant inflammatory changes around the lesions (Figure 1). Within 7 days of onset the morphology of lesions changed from papules to blisters, gradually becoming pustular and then drying up without notable crusting (Figure 2). New lesions continued to appear for about 10 days involving almost 90% of the body surface complicated with extensive secondary bacterial infection. New lesions ceased and existing lesions started to resolve within about 10 days of treatment initiation.

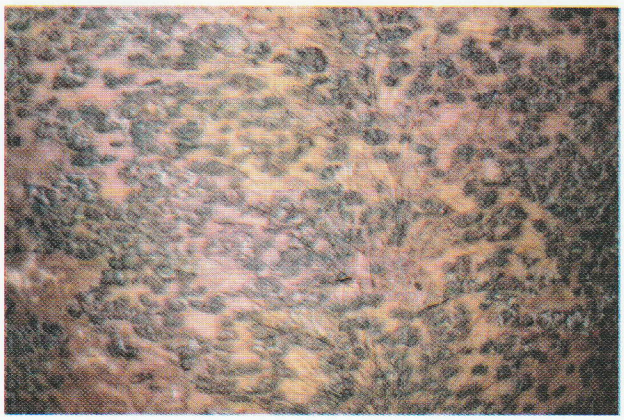

Figure 1

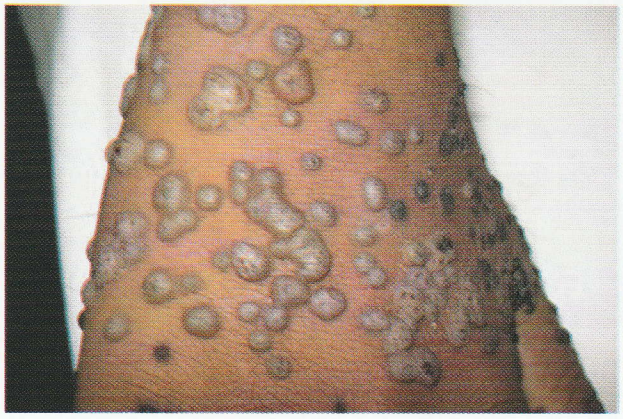

Figure 2

A skin biopsy was performed on the first day of presentation which revealed significant hyperkeratosis with an intraepidermal blister containing few acantholytic cells and multinucleated giant cells and a mild inflammatory infiltrate in the dermis, consistent with a viral blistering disease. Serology was negative for both VZV IgM and IgG on 2 occasions 3 weeks apart.

The patient was treated with intravenous aciclovir for 3 days and then changed over to valgan-

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ciclovir 450 mg bd for a period of 14 days. Secondary bacterial infection was treated with parenteral antibiotics according to sensitivity patterns.

Discussion

Varicella zoster virus (VZV) infection is common among renal transplant recipients occurring in up to 7-8% according to some studies. The case reported here is unusual in that the skin lesions are not typical of VZV infection and that 2 attacks occurred within 1 week interval.

Chronic verrucous VZV infection was first described in HIV patients, verrucous lesions occurring in patients with low CD4 counts (<100) and have been reported in both varicella and zoster. Clinical and histological features of HIV associated verucous VZV infection are well documented.

Single or multiple lesions arise at any cutaneous site measuring between 4 mm to 10 cm and have a pox or wart like appearance and histologically verrucous VZV is characterized by orthokeratotic hyperkeratosis with the epidermis showing a range of verrucous papillamatous changes with multinucleated keratinocytes and limited apoptosis. This is in contrast to the classic VZV where cytolysis is the major feature with an abundant inflammatory infiltrate. According to this description histlogic features of our patient's biopsy is compatible with verrucous VZV infection which confirms the diagnosis and excludes other diagnoses that may warrant consideration such as molluscum, disseminated deep fungal infections, and human papilloma infection. A diagnosis of atypical chicken pox was further supported by the fact that 9 individuals (patients and staff) in the renal unit where the patient was treated developed chickenpox during this period.

Verrucous VZV in HIV negative individuals is not commonly reported in the literature and the first biopsy confirmed case of verrucous VZV in an organ transplant patient was reported in 2005 by D. Jeyarathnam et al in UK.

Though the exact pathogenesis is yet to be elucidated chronic VZV has been characteristically associated with thymidine kinase deficiency, drug resistance and following prolonged or suboptimal aciclovir therapy. Our patient has also received aciclovir for 14 days preceding the verrucous eruption.

References

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