

LETTER TO THE EDITOR

Rare Varicella zoster virus infection in an ALT free flap

Dear Editors,

Varicella zoster virus (VZV) infection is generally a mild and self-limiting disease, commonly seen in a primary case setting (1). A person with chickenpox is infectious 1–2 days before the rash appears (2). They remain contagious until all the lesions have crusted over (this takes approximately 6 days). The initial symptoms of chickenpox usually develop about 14–16 days after contact with the person infected with the virus. Nevertheless, severe complications have been reported in previously healthy children, including neurologic, skin and joint involvement, which are associated with considerable morbidity, long-term chronic sequelae or even fatality (3).

A 30-year-old male patient was involved in a machinery injury and had sustained a severe crushing injury to his right forearm. He had Volkmann's ischaemic contracture in the right upper extremity. After tenolysis and neurolysis, an Anterolateral thigh (ALT) free flap was used to cover the exposed bone and tendon. The patient was young, healthy and immunocompetent with no history of past illness and medications. On day 21 after the operation, multiple small vesicles were noted. On day 24, the patient had a high-grade fever with generalised vesicular rash (Figure 1). Based on its classical macroscopic appearance, this was recognised as a chickenpox. He was continued



Figure 1 Postoperative finding after 2 weeks shows multiple vesicular rashes on the flap.



Figure 2 Postoperative finding after 4 weeks shows well-healed flap.

on acyclovir treatment. Complete recovery of the free flap was achieved with acyclovir (Figure 2). The patient recovered well and long-term follow-up is ongoing.

VZV infection usually presents on the head and neck area and both the upper extremities. In VZV infection, the most common symptom and sign is the rash affecting the specific dermatome. In the present case, the patient developed erythematous macules and papules that progressed to vesicles and crust. The factor hindering the diagnosis of this virus was dermatome distortion resulting from tissue rearrangement. Islands of tissue at the site of distant and free flap transfers were typically spared from cutaneous lesions, and the haematogenous flow could help this virus spread. Free flap surgery is often prolonged, accompanied with a loss of blood, fluid and body temperature. In addition, the conditions that are maintained postoperatively to maximise perfusion are also optimal for the growth of viral infection. The pathogenesis of bacterial infection is thought to be caused as a result of skin barrier disruption and possibly transient virus-induced immunosuppression (3). Varicella zoster is caused by the reactivation of a latent viral infection that occurred originally in either a spinal or a cranial sensory ganglion, as a result of haematogenous dissemination during the initial varicella infection. On reactivation, the virus spreads

from the ganglion along the corresponding sensory nerve to the skin (4). In our patient, since the ALT flap had been completely denervated at its elevation, the virus was believed to have spread along the joined blood vessels by anastomosis. Early diagnosis, prevention of secondary bacterial infection and appropriated antiviral therapy are keys to a favourable outcome. The presentation of this case study is expected to increase the awareness of the microsurgeon and promote vigilance for such infections to avoid a potentially flap loss situation in an otherwise successful operation. To the best of our knowledge, this is a rare case of VZV infection in a free flap that was found to be responsible for the free flap appearing distressed.

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