Photodistributed chickenpox in a 3-year-old boy

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A 3-year-old boy was referred to the dermatology department with a 1-day history of temperature of 38.5°C, myalgia and bilateral itchy, vesicular eruptions on both of his forearms and his neck (Figure 1 and Appendix 1, available at www.cmaj.ca/lookup/doi/10.1503/cmaj.201771/tab-related-content). Some scattered vesicles were also present on non-photo-exposed areas. He had no medical history, had not received the varicella vaccination, and his older brother had developed chickenpox 2 weeks earlier. Two days before the eruption, the child had spent a sunny afternoon outdoors dressed in a T-shirt. Culture from a vesicle confirmed varicella-zoster virus infection. We prescribed acetaminophen and aqueous chlorhexidine for symptomatic relief, and the patient's lesions resolved within 2 weeks.

Without vaccination, up to 96% of children develop chickenpox, most within the first 5 years of life.[1] Infection is characterized by the simultaneous presence of vesicular, erosive and crusty lesions, sometimes umbilicated, which usually occur in crops.[2] Although considered benign, with most children having a mild course, the most common complication is superimposed bacterial infection (impetiginization) with *Staphylococcus aureus* and *Streptococcus pyogenes*, requiring antibacterial treatment.[3]

Ultraviolet (UV) rays are known to exacerbate cutaneous herpes infection, but photodistributed chickenpox is an atypical presentation.[3] In photodistributed disease, skin lesions are slightly larger than in typical chickenpox (usually 1–2 mm), the rash is monomorphous and the lesions are in a similar stage of evolution.[4] The pathogenesis remains unclear, although it is proposed that UV rays induce local vasodilatation and increase capillary permeability, particularly during viremia.[4] UV radiation, furthermore, induces local immunosuppression by secretion of anti-inflammatory cytokines, including interleukin 10, which may lead to photodistribution of lesions.[5]

Figure 1: Umbilicated vesicles present in a 3-year-old boy. The vesicles were 2–3 mm in size and associated with erosions and crusts, bilaterally on the forearms.

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