



## Recurrent vesicular eruption on the right hand

The 8-year-old boy was otherwise healthy. So what was causing these painful lesions to erupt on his hand?

**THE PARENTS OF AN 8-YEAR-OLD BOY** brought their son to our clinic because they were worried about the recurrent painful lesions on the pinkie, ring, and middle fingers of his right hand (FIGURE 1A AND 1B). The lesions, which had recurred monthly for the past 3 years, typically lasted a few days and then spontaneously resolved.

Physical examination revealed numerous skin-colored vesicles on an erythematous

base, with overlying crusting and impetiginization over the distal aspects of the fingers. The patient was otherwise healthy and not on any medication.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

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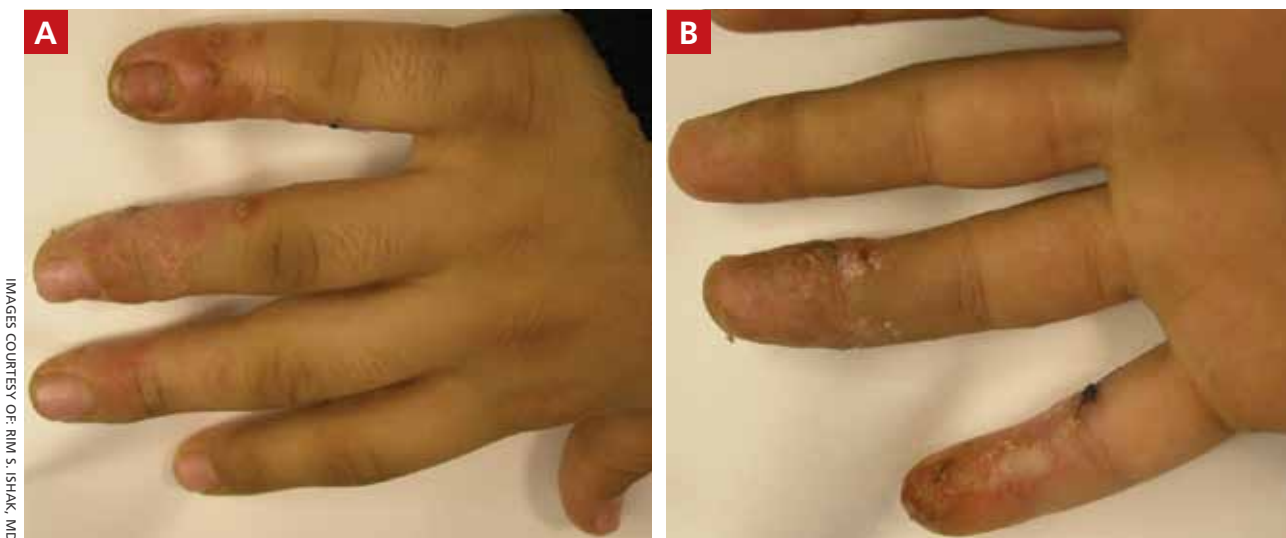
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**FIGURE 1**

**8-year-old boy with painful hand lesions\***



\*Suture on the pinkie is where the biopsy was taken.

> Herpetic whitlow lesions are associated with intense, throbbing pain.

**The diagnosis: Herpetic whitlow**

Herpetic whitlow, or herpes simplex virus (HSV) infection of the hand, was first reported by Adamson in 1909.<sup>1</sup> Herpes infection of the hand classically has a bimodal age distribution. It may be seen in children younger than 10 years of age or in adults between 20 and 30 years of age.<sup>2</sup> In children, it is caused almost exclusively by HSV-1, whereas in adults it can be caused by HSV-1 or HSV-2.<sup>2,3</sup>

HSV infection of the hand classically occurs as a result of autoinoculation following herpetic gingivostomatitis. After inoculation, the virus has an incubation period of 2 to 20 days before vesicles appear.<sup>4</sup> The appearance of the lesions is associated with intense throbbing pain. Fever and systemic symptoms are rare.

■ **What you'll see.** Patients with herpetic whitlow will develop a single vesicle or cluster of vesicles on a single digit a few days after their skin has been irritated or exposed to minor trauma.<sup>2,4</sup> Vesicles are typically clear in color and have an erythematous base. However, they are often superinfected with bacteria and may exhibit signs of impetiginization. The most common location of the vesicles is on the terminal phalanx of the thumb, index, or middle finger.<sup>3</sup>

**Differential includes dactylitis**

Painful fingers may also be suggestive of dactylitis.

■ **Blistering distal dactylitis**, mostly caused by group A  $\beta$ -hemolytic streptococci, is a bacterial infection that manifests as a tense bullae over the anterior fat pad of the volar aspect of the distal part of a single finger (or rarely a toe); diagnosis is usually confirmed by culture.<sup>5</sup>

■ **Sickle cell dactylitis**, or hand-foot syndrome, is caused by localized bone marrow infarction of the carpal and tarsal bones and phalanges. Patients will complain of a sudden onset of warm, tender global swelling of the hands and/or feet that is occasionally accompanied by fever and leucocytosis.<sup>5</sup>

■ **Spondyloarthritis dactylitis**, or a "sausage-like" digit, is usually caused by flexor tenosynovitis and presents as diffuse painful

swelling of the fingers and toes, mainly over the flexor tendons.<sup>5</sup>

**Making the diagnosis**

The diagnosis of herpetic whitlow is clinical. If the diagnosis is unclear, diagnostic tests can include viral culture, serum antibody titers, a Tzanck smear, lesion specimen antigen testing, or histopathologic examinations.

In this case, swab cultures revealed moderate growth of group A  $\beta$ -hemolytic streptococci. Fungal smears and cultures were negative. Histopathology revealed intraepidermal vesiculation with ballooning and reticular degeneration and cytopathic changes of herpetic infection.

■ **The natural history** of the untreated, uncomplicated herpetic whitlow is complete clearance within 2 to 3 weeks.<sup>4</sup> Rare complications include systemic viremia, ocular infection, nail dystrophy, nail loss, scarring, and localized hyperesthesia or hypoesthesia.<sup>2,4,6,7</sup>

**Treatment with acyclovir**

Oral acyclovir (2 g/day in 3 doses for 10 days) taken during the prodromal stage of recurrent HSV-2 herpetic whitlow has been shown to reduce the duration of symptoms from 10.1 to 3.7 days.<sup>8</sup> Prophylactic use of oral acyclovir (200 mg, 4 times daily for up to 2 years) has been shown to be effective in suppressing recurrent HSV infection of nongenital skin.<sup>9</sup>

**A good outcome**

Our patient was given a 10-day course of acyclovir 400 mg orally 3 times daily and cefadroxil 500 mg orally twice daily (for superimposed bacterial infection). The lesions had completely disappeared upon follow-up 2 weeks later.

JFP

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