Stubborn hand rash

Was there a connection between the rash on this patient's hand and another condition he occasionally suffered from?

Michael L. Crandall, MD
Flight Surgeon, US Navy, Camp Pendleton, Calif

mikecrandall7@gmail.com

DEPARTMENT EDITOR
Richard P. Usatine, MD
University of Texas Health Science Center at San Antonio

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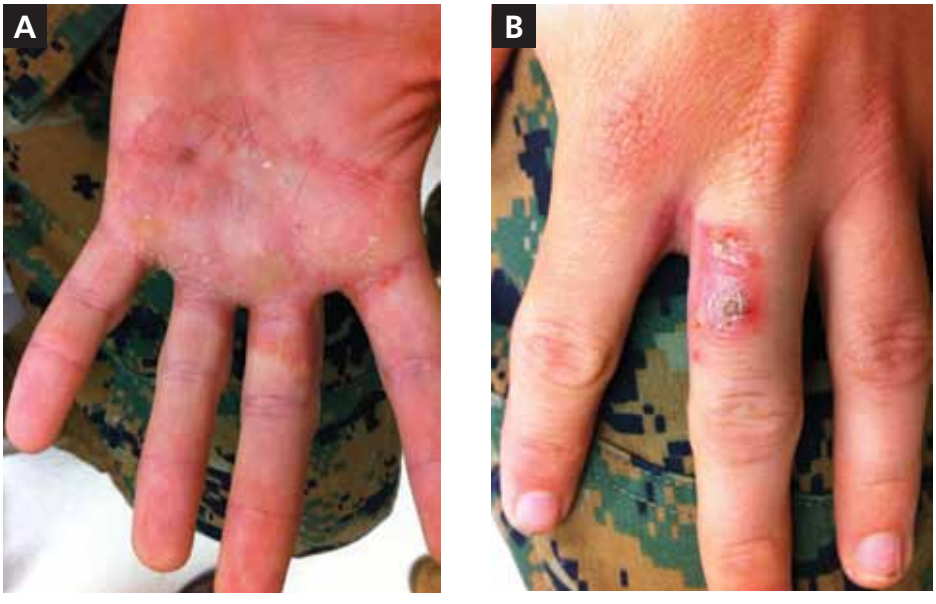
A 24-YEAR-OLD MAN sought care at our primary care clinic for a stubborn rash that had come on gradually and grown to cover much of his left hand. The rash itched and after much scratching, it began to crack and enlarge. The patient denied any trauma to the hand, but said that the rash was now mildly painful.

The patient indicated that he'd applied a topical antifungal agent to his hand and that the lesion initially shrunk. However, after he stopped using the cream, the rash flared again. He denied any similar lesions on his body, but did note that he occasionally suffered from athlete's foot. The patient said that he did not wear any rings or gloves regularly. He also denied excessive hand washing.

On examination, I noted a well-circumscribed, dry, flaky, erythematous plaque that extended to the base of each of his 4 fingers (**FIGURE 1A**). One of the extensions continued to the dorsal side of the middle finger; this area was raised, scaly, and had a scab (**FIGURE 1B**). The webbing of the fingers was also involved, but the nails were spared.

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

FIGURE 1
Pruritic rash extends to the dorsal side of the middle finger



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Making the diagnosis is straightforward with a good history and physical—and a potassium hydroxide test.

Diagnosis: Tinea manuum

This patient was given a diagnosis of tinea manuum, also known as two feet-one hand syndrome, a dermatophyte infection. The patient was initially treating his rash appropriately with the topical antifungal, but failed to treat his concomitant tinea pedis.

The infection is believed to be spread from the feet to the hand by scratching, as tinea pedis or onychomycosis of the toenails precede infection of the hand.[1] Whether one is right-handed or left-handed does not appear to play a role in which hand is affected.[2,3] However, the hand used to scratch or pick the feet is usually the hand that becomes involved.[3,4] The condition is more common in men and it tends to develop at an earlier age in patients who work with their hands.[3]

Tinea manuum is rare, with occurrence rates ranging from 0.3% to 0.7% of those with superficial fungal infections.[5] The true culprit in two feet-one hand syndrome are the feet. Unlike tinea manuum, tinea pedis is the most common fungal skin infection in North America and Europe.[6] The most common agents isolated in tinea pedis are *Trichophyton rubrum*, *Trichophyton mentagrophytes*, and *Epidermophyton floccosum*.[7]

The condition presents in one of 4 ways

The differential for two feet-one hand syndrome includes contact dermatitis, an Id reaction (autoeczematization), cellulitis, or a herpetic lesion.[2,8]

Tinea pedis generally presents in one of 4 ways:[1]

1. **Classic ringworm** features an erythematous, scaly, well-circumscribed rash on the feet.
2. **Interdigital tinea pedis** has toe web involvement, often between the fourth and fifth toes. It can transition between dry and scaly to soft, soggy, and macerated. Skin may become white and fissures may arise. Pruritus is often worse after the toes dry.
3. **Moccasin type** (plantar hyperkeratotic tinea pedis) features a fine white silvery scale that often covers the entire sole. Skin may be pink and itch. The dorsum of the feet is not usually involved.
4. **Acute vesicular tinea pedis** is a highly inflammatory infection with vesicles that may coalesce into bullae. It likely stems from a chronic infection and is more common when occlusive shoes are worn.

Do a skin scraping

Diagnosis can be easily made with a good history and physical and a potassium hydroxide test. If a scraping from the hand proves to be fungal, a thorough inspection of the feet should be undertaken, as tinea manuum alone is uncommon.

Tx is the same for feet and hand

Topical antifungals such as terbinafine, clotrimazole, or ketoconazole are first-line therapy for the feet and hand.[9] Consider oral antifungals if the affected area is large, the patient doesn't respond to topical therapy, or the patient is immunocompromised.[9,10]

When oral therapy is initiated for tinea manuum, one week of itraconazole (200 mg twice daily for 7 days) has been shown to be as effective as 2 weeks of oral terbinafine (250 mg daily for 14 days).[10]

Oral therapy worked for my patient

In light of the patient's previous failure with topical therapy, he was reluctant to try this

approach again. After a normal hepatic panel, I started him on a 2-week course of oral terbinafine 250 mg daily. (Terbinafine was available at our clinic pharmacy, while itraconazole was not). Follow-up at one month showed no sign of previous infection. JFP

CORRESPONDENCE
LT Michael Crandall, MD, Department of Dermatology, Naval Medical Center San Diego, 34800 Bob Wilson Drive, San Diego, CA 92134; mikecrandall7@gmail.com

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