Erythematous Plaques on the Dorsal Aspect of the Hand

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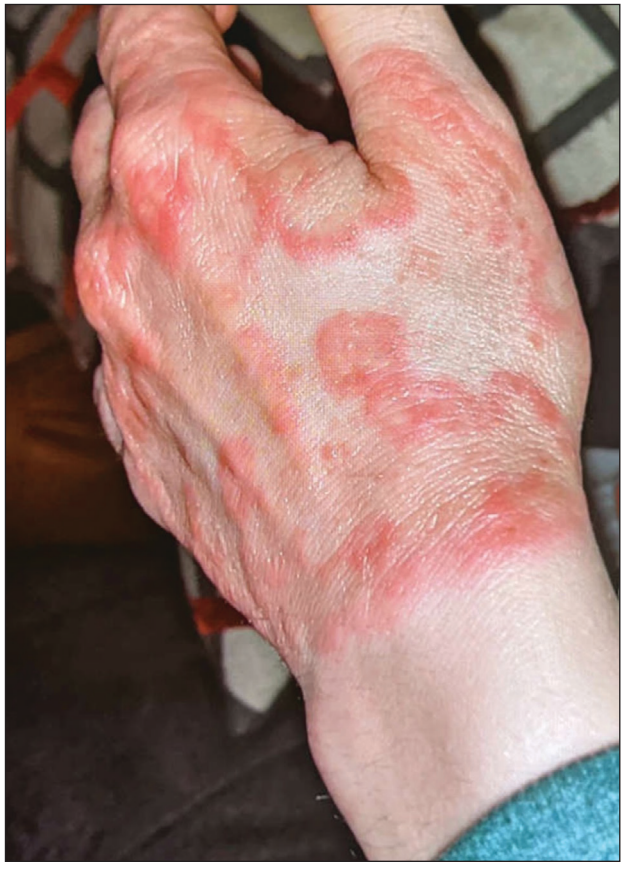

A 33-year-old woman presented with an asymptomatic rash on the left hand that was suspected by her primary care physician to be a flare of hand dermatitis. The patient had a history of irritant hand dermatitis diagnosed 2 years prior that was suspected to be secondary to frequent handwashing and was well controlled with clobetasol and crisaborole ointments for 1 year. Four months prior to the current presentation, she developed a flare that was refractory to these topical therapies; treatment with biweekly dupilumab 300 mg was initiated by dermatology, but the rash continued to evolve. A punch biopsy was performed to confirm the diagnosis.

WHAT'S YOUR **DIAGNOSIS?**

a. allergic contact dermatitis
b. erythema annulare centrifugum
c. erythema gyratum repens
d. irritant contact dermatitis
e. Majocchi granuloma

PLEASE TURN TO PAGE E59 FOR THE DIAGNOSIS

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THE **DIAGNOSIS:** Majocchi Granuloma

Histopathology showed rare follicular-based organisms highlighted by periodic acid–Schiff staining. This finding along with her use of clobetasol ointment on the hands led to a diagnosis of Majocchi granuloma in our patient. Clobetasol and crisaborole ointments were discontinued, and she was started on oral terbinafine 250 mg daily for 4 weeks, which resulted in resolution of the rash.

Majocchi granuloma (also known as nodular granulomatous perifolliculitis) is a perifollicular granulomatous process caused by a dermatophyte infection of the hair follicles. *Trichophyton rubrum* is the most commonly implicated organism, followed by *Trichophyton mentagrophytes* and *Epidermophyton floccosum*, which also cause tinea corporis and tinea pedis.[1] This condition most commonly occurs in women aged 20 to 35 years. Risk factors include trauma, occlusion of the hair follicles, immunosuppression, and use of potent topical corticosteroids in patients with tinea.[2,3] Immunocompetent patients present with perifollicular papules or pustules with erythematous scaly plaques on the extremities, while immunocompromised patients may have subcutaneous nodules or abscesses on any hair-bearing parts of the body.[3]

Majocchi granuloma is considered a dermal fungal infection in which the disruption of hair follicles from occlusion or trauma allows fungal organisms and keratinaceous material substrates to be introduced into the dermis. The differential diagnosis is based on the types of presenting lesions. The papules of Majocchi granuloma can resemble folliculitis, acne, or insect bites, while nodules can resemble erythema nodosum or furunculosis.[4] Plaques, such as those seen in our patient, can mimic cellulitis and allergic or irritant contact dermatitis.[4] Additionally, the plaques may appear annular or figurate, which may resemble erythema gyratum repens or erythema annulare centrifugum.

The diagnosis of Majocchi granuloma often requires fungal culture and biopsy because a potassium hydroxide preparation is unable to distinguish between superficial and invasive dermatophytes.[3] Histopathology will show perifollicular granulomatous inflammation. Fungal elements can be detected with periodic acid–Schiff or Grocott-Gomori methenamine-silver staining of the hairs and hair follicles as well as dermal infiltrates.[4]

Topical corticosteroids should be discontinued. Systemic antifungals are the treatment of choice for Majocchi granuloma, as topical antifungals are not effective against deep fungal infections. Although there are no standard guidelines on duration or dosage, recommended regimens in immunocompetent patients include terbinafine 250 mg/d for 4 weeks; itraconazole pulse therapy consisting of 200 mg twice daily for 1 week with 2 weeks off therapy, then repeat the cycle for a total of 2 to 3 pulses; and griseofulvin 500 mg twice daily for 8 to 12 weeks (Table).[3] For immunocompromised patients, combination therapy with more than one antifungal may be necessary.

Recommended Treatment Regimens for Majocchi Granuloma in Immunocompetent Patients

Terbinafine 250 mg/d for 4 wk
Itraconazole pulse therapy: 200 mg twice daily for 1 wk with 2 wk off therapy, then repeat the cycle for a total of 2 to 3 pulses
Griseofulvin 500 mg twice daily for 8 to 12 wk

Data from Boral et al.[3]

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