

Vegetative Plaques on the Face

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An 86-year-old man was admitted to the hospital for sigmoid colon perforation secondary to ischemic colitis. His medical history consisted of sequelae from atherosclerotic vascular disease. He had no known personal or family history of skin disease. His bowel perforation was surgically repaired, and his clinical status was stabilized, enabling transfer to a transitional care hospital. His course was complicated by delayed healing of the midline abdominal surgical wounds, leading to multiple computed tomography studies with iodinated contrast. One week following arrival at the transitional care hospital, he was noted to have a pustular rash on the face. He was empirically treated with topical steroids, mupirocin, and sulfacetamide. The rash did not improve, and the

appearance changed, at which point dermatology was consulted. On evaluation, the patient was afebrile with a normal white blood cell count. Physical examination revealed gray-brown, moist, vegetative plaques on the cheeks with a few large pustules as well as similar-appearing lesions on the neck and upper chest. Attempted removal of a portion of the plaque left an erosion.

WHAT'S YOUR DIAGNOSIS?

- blastomycosislike pyoderma
- halogenoderma
- pemphigus vegetans
- vegetative Majocchi granuloma
- vegetative pyoderma gangrenosum

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The authors report no conflict of interest.

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THE DIAGNOSIS: Vegetative Majocchi Granuloma

A biopsy and tissue culture showed acute dermal inflammation with granulomatous features and numerous fungal hyphae within the stratum corneum (Figure 1A), which were confirmed on Grocott-Gomori methenamine-silver staining (Figure 1B). Gram and Fite stains were negative for bacteria. A tissue culture speciated *Trichophyton rubrum*, which led to a diagnosis of deep dermatophyte infection (Majocchi granuloma) with a highly unusual clinical presentation of vegetative plaques. Predisposing factors included treatment with topical corticosteroids and possibly poor health and nutritional status at baseline. Our patient was treated with fluconazole 200 mg daily for 6 weeks, with near resolution of lesions at 3-week follow-up (Figure 2).

Dermatophytes are a common cause of superficial skin infections. The classic morphology consists of an annular scaly plaque; however, a wide variety of presentations have been observed (eg, verrucous, vesicular, pustular, granulomatous). Therefore, dermatophyte infections often mimic other dermatologic conditions, including

atopic dermatitis, rosacea, psoriasis, bacterial abscess, erythema gyratum repens, lupus, granuloma annulare, cutaneous lymphoma, Hailey-Hailey disease, scarring alopecia, and syphilis.¹

Notably, when dermatophytes grow downward along hair follicles causing deeper infection, disruption of the follicular wall can lead to an excessive inflammatory response with granulomatous features.² Risk factors include cutaneous trauma, long-standing infection, immunocompromise, and treatment with topical corticosteroids.³ This disease evolution clinically appears as a nodule or infiltrated plaque, often without scale. The most well-known example is a kerion on the scalp. Elsewhere on the body, lesions often are termed *Majocchi granulomas*.²

Vegetative plaques, as seen in our patient, are a highly unusual morphology for deep tinea infection. Guanziroli et al⁴ reported a case of vegetative lesions on the forearm of a 67-year-old immunocompromised man that were successfully treated with a 3-month course of oral terbinafine after *Trichophyton verrucosum* was isolated. Skorepova et al⁵ reported a case of pyoderma vegetans triggered by recurrent *Trichophyton mentagrophytes* on the dorsal hands of a 64-year-old man with immunoglobulin deficiency of unknown etiology. The

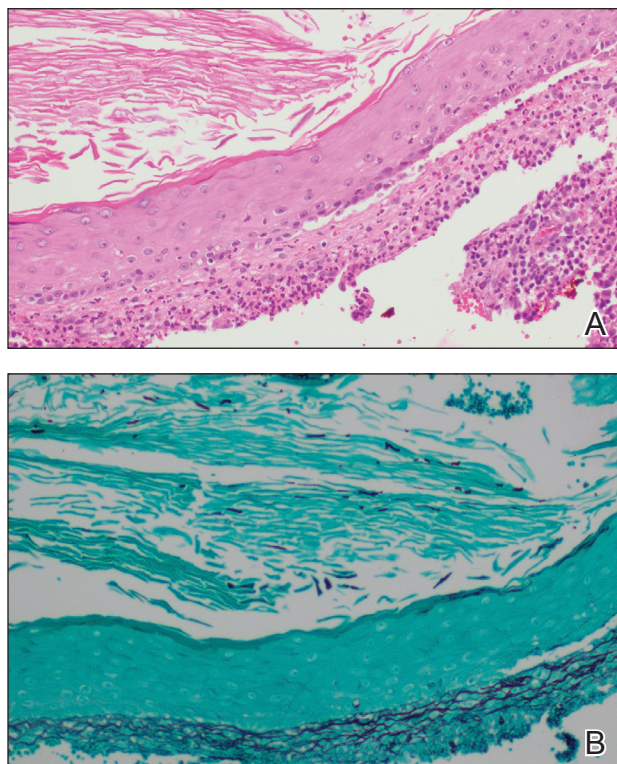


FIGURE 1. A, Biopsy results showed fungal hyphae in the stratum corneum and acute dermal inflammation with granulomatous features (H&E, original magnification $\times 20$). B, Grocott-Gomori methenamine-silver stain highlighted numerous fungal hyphae in the stratum corneum (original magnification $\times 20$).



FIGURE 2. Resolution of vegetative Majocchi granuloma on the face 3 weeks after treatment with oral fluconazole.

lesions were successfully treated with a prolonged course of doxycycline, topical triamcinolone, and intravenous immunoglobulin following 2 initial courses of terbinafine.

The differential diagnosis for vegetative lesions includes pemphigus vegetans, a vegetative variant of pyoderma gangrenosum; halogenoderma; and a variety of infections, including dimorphic fungi (histoplasmosis, blastomycosis), blastomycosislike pyoderma (bacterial), and candidiasis.⁶ These conditions usually can be distinguished based on histopathology. Clinically, pemphigus vegetans presents with pustules and vegetative lesions, as in our patient, but usually is more diffuse and favors the intertriginous areas. Histology likely would reveal foci of acantholysis and eosinophils. Vegetative pyoderma gangrenosum favors the trunk, particularly in sites of surgical trauma. In our patient, no lesions were present near the abdominal surgical sites, and there was no antecedent cribriform ulceration. Halogenoderma was a strong initial consideration given the localization, presence of large pustules, and history of numerous contrast computed tomography studies; however, our patient's iodine levels were normal. Infectious etiologies including dimorphic fungi and blastomycosislike pyoderma generally are not restricted to the head and neck, and tissue culture helps exclude them. Vegetative lesions may occur in the setting of other infections, and tissue culture may be necessary to differentiate them if histopathology is not suggestive.

Deep dermatophyte infections require treatment with oral antifungals, as topicals do not penetrate adequately into the hair follicles. Exact regimens vary, but generally oral terbinafine or an oral azole (except ketoconazole) is administered for 2 to 6 weeks, with immunocompromise necessitating longer courses.

We present a rare case of vegetative Majocchi granuloma secondary to *T rubrum* infection. A dermatophyte infection should be included in the differential for vegetative lesions, especially in dense hair-bearing areas such as the beard. Treatment generally is straightforward with oral antifungals.

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