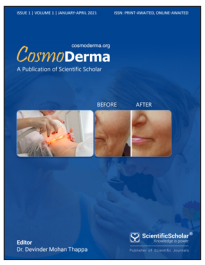
ScientificScholar®
Knowledge is power
Publisher of Scientific Journals

www.cosmoderma.org

CosmoDerma



Letter to the Editor

Majocchi's granuloma

Eswari Loganathan[1], Spandana Devarahalli Krishnamurthy[1], Saurabh Raut[1], Dilip Kumar[1]

[1]Department of Dermatology, Venereology and Leprosy, Bangalore Medical College and Research Institution, Bengaluru, Karnataka, India.

***Corresponding author:**
Spandana Devarahalli Krishnamurthy,
Department of Dermatology, Venereology and Leprosy, Bangalore Medical College and Research Institution, Bengaluru, Karnataka, India.

spandanasinchu@gmail.com

Received : 22 April 2023
Accepted : 17 May 2023
Published : 29 May 2023

DOI
10.25259/CSDM_92_2023

Quick Response Code:

Dear Sir,

A 42-year-old woman presented to the dermatology outpatient department with complaints of itchy, raised skin lesions on the abdomen and forearm of 2-month duration. She was otherwise in good health. She gave a history of the application of topical over-the-counter medications to the affected area. There was no history of trauma or shaving in the area. On cutaneous examination, multiple, discrete, and skin-colored to purple papules of size 0.5 cm × 0.5 cm were noted over the lower one-third of the outer aspect of the right forearm [Figure 1a], and multiple well-defined hyperpigmented plaques with mild peripheral scaling of sizes between 3 cm × 3 cm and 5 cm × 10 cm were noted over the left side of the abdomen, with multiple hyperpigmented, discrete papules of size 0.5 cm × 0.5 cm noted over and around the plaques [Figure 1b]. The result for the human immunodeficiency virus was negative. KOH examination of skin scrapings was negative for fungal elements. Histopathological examination of one of the papules on the forearm revealed a perifollicular lymphohistiocytic infiltrate with destruction of hair follicles, and periodic acid-Schiff (PAS) staining was positive for fungal hyphae [Figure 2a-d]. The diagnosis of Majocchi's granuloma (MG) was made, and the patient was treated with oral itraconazole 200 mg daily for 8 weeks, with complete clinical resolution of the lesions at the end of 8 weeks.

MG, also known as "Granuloma tricofitico," is a rare fungal infection affecting the dermis and subcutaneous tissue. It was initially described and named after Domenico Majocchi.[1] According to the patient's health and clinical symptoms, there are two forms of MG. The first type is perifolliculitis, which mostly affects the lower limbs in apparently healthy people. It usually occurs due to penetrating trauma, and its clinical manifestations typically take the form of papules. The second form is subcutaneous nodules, which typically affect immunosuppressed hosts, with the most common site being the upper limbs. Nodule clusters are the clinical manifestations.[2]

The most frequent cause of MG is *Trichophyton rubrum*, which is followed by *Trichophyton mentagrophytes*, *Trichophyton violaceum*, and *Trichophyton tonsurans*. In addition, non-dermatophytic fungi from the genera *Phoma* and *Aspergillus* have been implicated in the etiology of MG.[2] As a side effect of long-term use of potent topical corticosteroids, chemotherapeutic drugs, or systemic immunosuppression, MG develops when a chronic superficial fungal infection (such as dermatophytosis of the buttock, foot, or toenail) gradually spreads into the subcutaneous tissues.

Four different dermatophyte diseases can be distinguished by the presence of dermal hyphae and spores: MG, deeper dermatophytosis, diffused dermatophytosis, and mycetoma and pseudomycetoma associated with dermatophytes. Although these invasive types' of clinical symptoms may be similar, their histological findings differ. "Granuloma tricofitico" was diagnosed using the three criteria listed below: (1) Perifollicular granulomatous inflammation

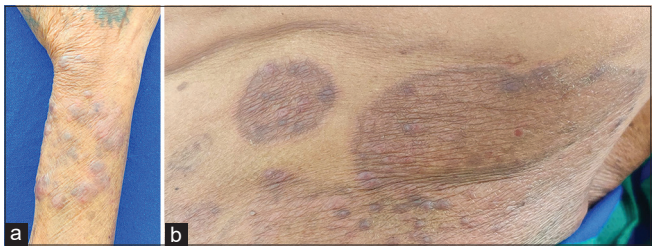


Figure 1: (a) Multiple, discrete, and skin-colored to purple papules of size 0.5 cm × 0.5 cm were noted over the lower one-third of the outer aspect of the right forearm. (b) Multiple well-defined hyperpigmented plaques with mild peripheral scaling of sizes between 3 cm × 3 cm and 5 cm × 10 cm were noted over the left side of the abdomen, with multiple hyperpigmented, discrete papules of size 0.5 cm × 0.5 cm noted over and around the plaques.

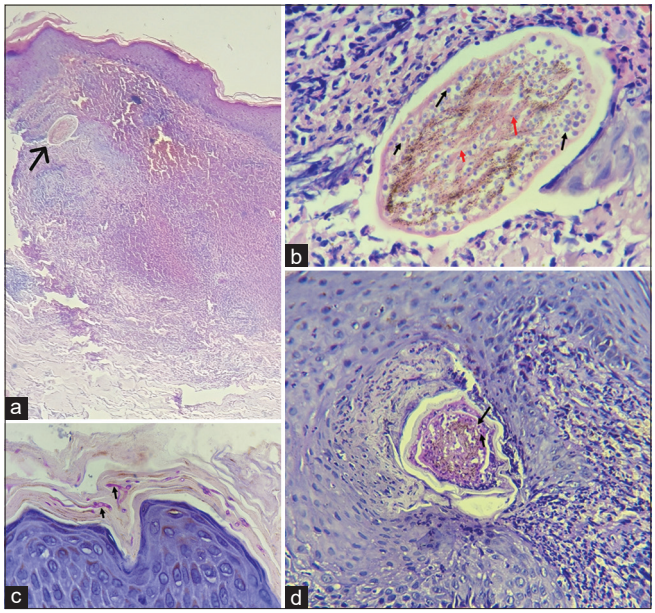


Figure 2: (a) Scanner view of H and E stained slide showing fungus infected hair follicle (black arrow). (b) Oil immersion view of H and E-stained slide showing fungal spores inside hair follicle (black arrow) with destruction of hair structure (red arrow). (c) Periodic acid schiff (PAS) stain showing fungal hyphae in stratum corneum (black arrow) (×100). (d) PAS stain accentuating the fungal elements in distorted hair follicle (black arrow) (×40).

with histological evidence; (2) dermatophyte-infected lesions; and (3) the presence of dermatophytes in the dermis as well as the superficial layer.[3]

KOH preparations of scales and pustules, however, may not always reveal the presence of hyphal structures in MG patients. When the KOH test result is negative, Gram stain, calcofluor white stain, scale cultures, and exudate or tissue biopsy samples may still show hyphae.[3] When histopathologic testing is carried out using the hematoxylin-eosin stain, it is challenging to detect fungal elements. However, fungal spores, hyphae, and arthrospores can be easily found in dermal infiltrates, hair follicles, and hairs using PAS and Grocott methenamine silver staining. For the management of MG, no accepted consensus exists. Before the discovery of antifungal medications, MG was treated with topical 2-dimethylamino-6-(-diethylaminoethoxy)-benzothiazole, local X-ray, and oral potassium iodide.[2] Due to inadequate drug penetration into the deeper epidermal layers, topical antifungals are typically clinically ineffective.[4] Some dermatologists advise using oral antifungal medications such as terbinafine or itraconazole for at least 4–8 weeks, then stopping after all lesions have disappeared.[5]

High levels of suspicion should be raised in the presence of a history of the application of topical corticosteroids for some pre-existing dermatosis and the development of non-tender, typically unilateral, erythematous or purple nodules, papules, and plaques that are resistant to the initial treatment.[3]

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Durdu M, Kandemir H, Ilkit M, de Hoog GS. Changing concepts and current definition of Majocchi's granuloma. Mycopathologia 2020;185:187-92.
2. Boral H, Durdu M, Ilkit M. Majocchi's granuloma: Current perspectives. Infect Drug Resist 2018;11:751-60.
3. Ilkit M, Durdu M, Karakaş M. Majocchi's granuloma: A symptom complex caused by fungal pathogens. Med Mycol 2012;50:449-57.
4. Gupta AK, Groen K, Woestenborghs R, de Doncker P. Itraconazole pulse therapy is effective in the treatment of Majocchis granuloma: A clinical and pharmacokinetic evaluation and implications for possible effectiveness in tinea capitis. Clin Exp Dermatol 1998;23:103-8.
5. Parmar NV, Asir GJ, Rudramurthy SM. Atypical presentation of Majocchi's granuloma in an immunocompetent host. Am J Trop Med Hyg 2017;96:1-2.

How to cite this article: Loganathan E, Krishnamurthy SD, Raut S, Kumar D. Majocchi's granuloma. CosmoDerma 2023;3:83.