

Case for diagnosis*

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CASE REPORT

A 53-year-old man presented with a 2-week old, rapidly growing, plaque on the right forearm. He worked as a seasonal olive harvester and may have unknowingly been scratched by an olive branch. The patient had not been treated with topical steroids for this condition and had never shaved his forearms. At the time of the physical examination, a keloid-like plaque was observed on the right forearm (Figure 1). Direct examination of the scales and the purulent discharge revealed no bacterial or hyphal elements. Microbiological investigation of a deep-aspiration

identified signs of *Trichophyton rubrum* (Figures 2 and 3). Antifungal susceptibility test revealed sensibility to terbinafine, itraconazole and fluconazole. Biochemical and hematological analyses were performed to assess the immunologic status of the patient. Serology for HIV virus was negative; the T-helper/T-suppressor lymphocytes ratio and chest X-ray were also normal. The patient was treated with itraconazole 400mg during 8 weeks, with an excellent therapeutic response.



FIGURE 1: Ten-centimeter diameter erythematous bumpy plaque, resulting in a keloid-like or brainy appearance. Yellow crusts and follicular-centered pustules were present on the surface



FIGURE 2: Culture on Sabouraud's dextrose agar of a deep-aspiration sample yielded heaped and glabrous, pink-colored colonies of *Trichophyton rubrum* within 4-5 days

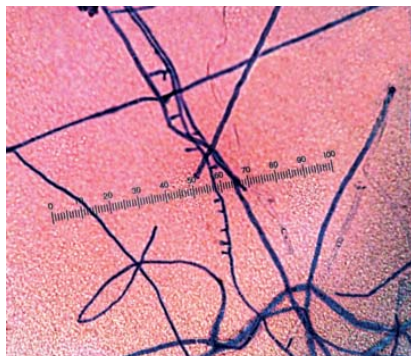


FIGURE 3: Lactophenol cotton blue mount showed septate hyphae with typical pencil-shaped macroconidia

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DISCUSSION

The rupture of the hair follicle infundibulum caused by the dermatophyte infection in Majocchi's granuloma, originates dermal and subcutaneous tissue inflammation, resulting in the typical chronic erythematous and indurated plaques. *Trichophyton rubrum* is the most common dermatophyte isolated from Majocchi's granuloma but other fungi have been reported to be involved, including *Trichophyton mentagrophytes*, *Trichophyton violaceum* and *Epidermophyton floccosum*.^{1,2} The collection of a tissue or deep-aspiration sample is required for efficient pathogen isolation and identification.³ Specific stains, such as the periodic acid-Schiff stain or Gomori methenamine-silver, may be necessary to visualize fungal elements in tissues. Follicular invasion in Majocchi's granuloma is usually endoectothrix. However, as in other inflammatory mycoses, like kerion, an endo-ectothrix mosaic pattern can be detected. There are two clinical forms of Majocchi's granuloma.⁴ The first is superficial and formed by granulomatous inflammation limited to the perifollicular area. It appears in healthy individuals after localized trauma, topical corticosteroid use, and chronic toenail or foot dermatophyte colonization. Superficial Majocchi's granuloma commonly occurs in young women who repeatedly shave their

legs or after chronic corticosteroid treatment. The second is a deep form, characterized by subcutaneous granulomatous response and neutrophilic dermal abscesses. It is usually seen in immunocompromised patients, such as transplant recipients and those with bone marrow malignancy or autoimmune diseases. Although the clinical appearance of the lesion in our study was more consistent with the deep form of Majocchi's granuloma, the patient was immunocompetent and there was no evidence of trauma, topical corticosteroid use or chronic dermatophyte colonization. There is no clear consensus on treatment regimen. However, systemic antifungals, such as azole antifungals, griseofulvin and terbinafine, are the mainstays of therapy, as they are safe and effective. The most reported regimens are itraconazole 200mg bid or terbinafine 250 mg daily. The duration of therapy should be at least 4 – 8 weeks, and treatment should be continued until all lesions have cleared.⁵

In conclusion, we report an unusual presentation of deep Majocchi's granuloma in an immunocompetent patient. In addition, this case highlights the importance of collecting deep microbiological samples for diagnosis. □

Abstract: Majocchi's granuloma is a persistent suppurative folliculitis, associated with a deep granulomatous reaction induced by dermatophytes. There are two clinical forms of Majocchi's granuloma: the superficial form that appears in healthy individuals after localized trauma; and the nodular form, which occurs in immunocompromised patients. We present a case of nodular Majocchi's granuloma on the forearm of an immunocompetent patient. Microbiological culture and examination of a deep aspiration sample identified *Trichophyton rubrum*. Collecting a deep sample of tissue is essential in achieving a good diagnostic performance.

Keywords: Arthrodermataceae; Case reports; Dermatophytes; Diagnostic techniques and procedures; Folliculitis

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