Majocchi's granuloma: A common infection, uncommon for pathologists

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Dear Editor:

Majocchi's granuloma is a well recognized but uncommon infection of the dermal and subcutaneous tissue by fungal organisms, usually limited to the superficial epidermis. It is a nodular granulomatous perifolliculitis caused by rupture of an infected follicle, typically of the lower extremity. Majocchi's granuloma is often associated with tinea pedis or onychomycosis and is therefore commonly caused by *Trichophyton rubrum*. However, other dermatophytes including *T. mentagrophytes* (variety *granulosum*), *T. epilans*, *T. violaceum*, *Microsporum audouini*, *M. gyseum*, *M. frrugineum* and *M. canis* may be the causative agent [1].

A 53-year-old female patient presented to the Skin Outpatient Department with a chief complaint of multiple coloured elevated lesions over the face since one year ago. On examination, multiple erythematous papules measuring 0.3 x 0.3 cm to 0.5 x 0.5 cm in size were present in a grouped fashion over the left cheek. The papules were soft in consistency and there was slight superficial scaling over the lesions. The nails, oral cavity, scalp, palms and soles were normal. There was no history of either oral intake of corticosteroid or local application. Complete blood counts were normal without eosinophilia. ELISA for HIV was negative. A clinical diagnosis of Majocchi's granuloma was made and a biopsy specimen from the left cheek measuring 0.8 x 0.4x 0.3 cm was sent to the Department of Pathology. On microscopic examination, fungal hyphae and spores were seen in the hair follicle and in dermis with an inflammatory infiltrate comprising lymphocytes and neutrophils. (Figure 1) periodic acid- Schiff (PAS) and gomori methanamine staining (GMS) were performed to confirm the presence of fungal hyphae. The features were consistent with a clinical diagnosis of Majocchi's granuloma.

Tinea infections are frequent, but Majocchi's granulmoa is an uncommon cutaneous fungal infection. It occurs when a dermatophyte infection produces a subcutaneous granulomatous reaction. This occurrence is more common in the pediatric population, but can occur at any age. Majocchi's granuloma is mostly localized to trauma-prone areas in healthy individuals. Typically, the lesions are located on the extremeties, and occurrence on the face is rare [2]. Most of them present as perifollicular papules on the areas prone to trauma or with a long-standing history of occlusion in healthy individuals with chronic dermatophytosis. Occasionaly, it may manifest as nodular plaque lesions or abscesses in immunocompromised hosts [3]. Diabetes and the use topical steroids are among the predisposing factors.

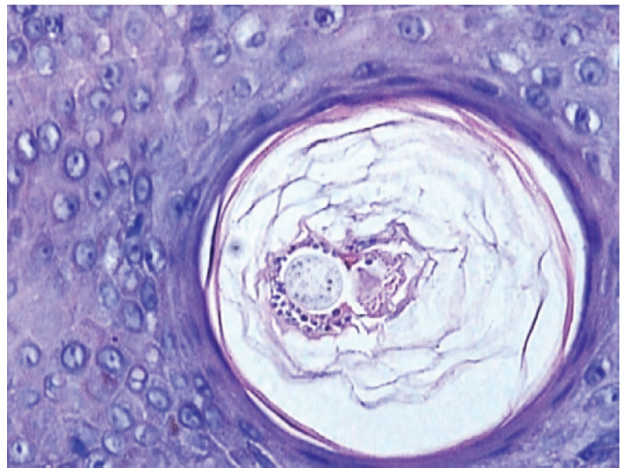

Figure 1. Photomicrograph revealing presence of fungal spores in hair follicle.(H&E, 400×).

The histological features of Majocchi's granuloma include variable acanthosis, diffuse granulomatous dermal infiltration of lymhohistiocytic cells with focal collection of neutrophils, follicular disruption, capillary proliferation, vascular ectasia, and extravasated red blood cells [2]. On PAS or GMS staining, numerous hyphae and spores are seen within hairs and hair follicles and in the inflammatory infiltrate of the dermis. Fungal elements may also reach the dermis through a break in the follicular wall [4]. There are no clearcut histologic features characterising the lesions caused

by specific organisms or the degree of immunologic compromise of the infected person. The diagnosis is confirmed through histopathology upon visualizing granuloms and dermatophytes in the form of filaments or spores in the mid and deep dermis. Treatment includes systemic antimycotics [5].

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