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CASE REPORT

Majocchi's Granuloma: An Atypical Clinical Presentation in a Child

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Abstract

Introduction: Majocchi's granuloma (MG) is a rare fungal infection of the dermis, mainly caused by dermatophytes (most commonly *Trichophyton rubrum*). Classically observed in adults, it is most often found on the lower limbs. We report a case of Majocchi granuloma of the face in a child.

Observation: 08-year-old child presented with skin lesions that changed appearance over time, located on the right temporal region and extending to the cheek. Initially, these were infiltrated lesions with a scaly-crusty surface, which later became papular and pustular. These lesions were secondary to trauma to the face, and had resisted all topical self-medication by the parents with corticoids and antifungals. Mycological examination of the scales identified *Trichophyton mentagrophytes*. Histopathology did not identify a granuloma, but rather a lymphocytic inflammatory dermal infiltrate. The diagnosis of Majocchi's granuloma was retained. Treatment with terbinafine tablets resulted in complete healing without recurrence.

Conclusion: The diagnosis of Majocchi's granuloma is often difficult. It should be considered in the presence of localized lesions resembling superficial mycosis, but which are resistant to well-administered topical treatment.

Keywords: Majocchi, Face, Child, *Trichophyton mentagrophytes,* Terbinafine.

1. Introduction

Majocchi's granuloma (GM) is a rare fungal infection of the dermis that is mainly caused by dermatophytes (in ≥ 95% of cases); first described by Domenico Majocchi. The most frequently identified cause is *Trichophyton rubrum* anthropophile. In the remaining cases, the causes are non-dermatophytic fungi such as Aspergillus species. This is an anthropozoonosis. Most often localized on the anterior aspect of the lower limbs and pelvic girdle [1-3]. We report here a case of Majocchi's granuloma on the face of a child.

2. Case Presentation

This case involved an 08-year-old schoolboy of Beninese nationality, with no previous history of any kind, who had a dog as a pet at home, and who was brought for consultation in the Dermatology-Venerology Unit of the Buruli Ulcer Screening and Treatment Centre of Allada for an itchy plaque on the right cheek. The lesion had been evolving continuously for 3 weeks, with periods of attenuation. According to the child's mother, it was caused by trauma to the face when the child fell from his height and landed on a piece of wood with his right temporal region. A cream-based treatment combining three molecules (betamethasone dipropionate, gentamycin and tonalfate) was used as self-medication for 5 days, with transitory improvement. However, given the worsening symptoms, the parents decided to get a dermatological consultation for the child.

During examination, the child was in good general condition. Two roughly oval lesions of variable size

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were noted, infiltrated and erythematous, with a scaly and crusty surface. The skin desquamation was sometimes flaky, sometimes fine with clear boundaries *(figure 1)*. The rest of the examination was normal. The diagnosis of altered dermatophytosis of glabrous skin was made. Treatment with ciclopiroxolamine cream was instituted without improvement, and even worsened the case with the appearance a week later of papular and pustular lesions; and an extension leading to the fusion of the two initially smaller lesions with a discretely granulomatous appearance in the periphery and a circinate border *(figure 2)*. With this new clinical presentation, we suspected an eczematous granuloma annulare. The scales were sampled for direct mycological examination and culture, which identified *Trichophyton mentagrophytes*. Histopathological examination of a 3-mm skin punch biopsy showed no granulomatous elements, but rather a perivascularly arranged lymphocytic inflammatory dermal infiltrate with discreetly acanthosic epidermis and moderate spongiosis. HIV serology was negative, and the blood count was normal.

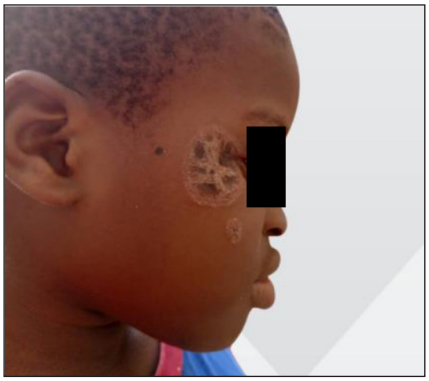
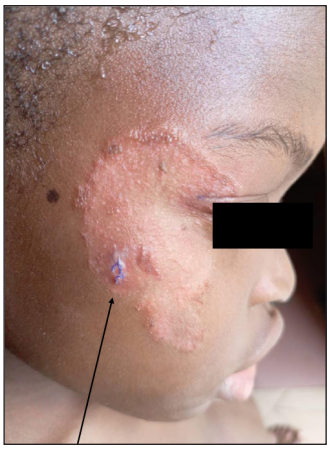


Figure 1. *Majocchi's granuloma, infiltrated erythematous lesions, with a scaly and crusty surface (clinical presentation at the first consultation)*



Biopsy region with the suture thread still visible

Figure 2. *Majocchi's granuloma, erythematous lesions, with a papular and pustular surface (clinical presentation after biopsy, under topical antifungals)*

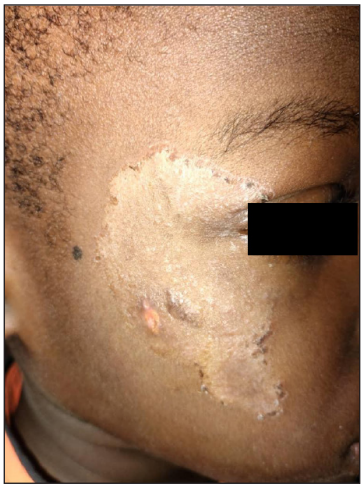


Figure 3. *Majocchi's granuloma in the healing process after one week of terbinafine tablets*

Based on these epidemiological, clinical and paraclinical arguments, the diagnosis of Majocchi's granuloma was retained. Treatment with terbinafine tablet 125 mg daily was initiated for one month. The evolution was favorable, with a progressive and complete disappearance of the lesions after two weeks of treatment without recurrence *(figures 3, 4, 5)*. A small hypertrophic scar of the biopsied area remained.

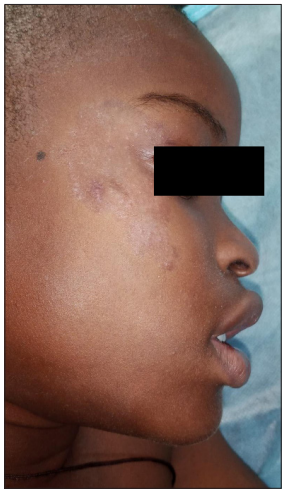


Figure 4. *Majocchi's granuloma in the healing process after two weeks of terbinafine tablets*

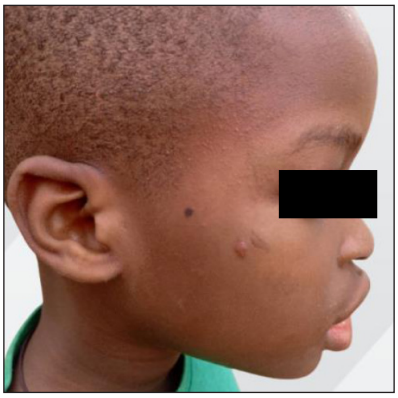


Figure 5. *Completely healed Majocchi's granuloma (picture taken 1 month after the end of the treatment)*

3. Discussion

Majocchi's granuloma can be caused by different types of dermatophytes. The disease is most often caused by *Trichophyton rubrum*. Other, less common pathogens that can cause Majocchi granuloma are *Trichophyton mentagrophytes* and *Epidermophyton floccosum* [4]. Cases have often been described in adults in literature [5]. In immunocompetent patients, pets should always be investigated. This was the case with our patient, who had direct contact with his dog. The fungus migrates from the stratum corneum through the hair follicle to the dermis. This makes it immune to any attempts at topical antifungal therapy [6]. Terbinafine is highly bound to plasma proteins (99%) and is lipophilic. It is widely distributed throughout the body, particularly in adipose tissue. It rapidly diffuses into the dermis and accumulates in the lipophilic stratum corneum. It is because of this property that it has proved its worth in this very difficult to diagnose mycosis [1].

4. Conclusion

The diagnosis of Majocchi's granuloma is often difficult. It is an exclusion diagnosis. Although rare, this dermatosis deserves to be known by the dermatologist. This case study has had the merit of highlighting the possibility of this condition occurring in children on one hand, as well as occurrence on sites other than those commonly indexed in the literature. It should be considered in the presence of localised lesions resembling superficial mycosis or eczema, but which are resistant to specific, well-administered topical treatments.

Conflict of Interest

The authors declare no conflict of interest

5. References

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