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Case report/Cas clinique

Majocchi's granuloma (*granuloma trichophyticum*) in a guinea pig owner: A case report and literature review

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ABSTRACT

Majocchi's granuloma is a folliculitis caused by dermatophytes, which is most commonly located on the skin of the lower limbs in women. A favorable factor for the infection is an injury caused by epilation, which, together with an existing fungal infection, can lead to the spread of folliculitis to other parts of the body. The disease is extremely rare (Burgdorf et al., 2010). The aim of this article is to describe the case of a patient who developed severe edematous lesions of the lower extremities from a mycosis infection with *Trichophyton mentagrophytes* varietas *granulosum*, the carrier of which was a domestic guinea pig.

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1. Introduction

Majocchi's granuloma is a folliculitis caused by dermatophytes, which is most commonly located on the skin of the lower limbs, especially in women. A favorable factor for the infection is an injury caused by epilation, which, together with an existing fungal infection, can lead to the spread of folliculitis to other parts of the body. The disease is extremely rare, but cases of transmission through domesticated rodents such as guinea pigs can be reported [1].

2. Case report

A 21-year-old female guinea pig owner from Poznan, Poland was observed to have pustules and papules on her lower legs, especially in the area of the hair follicles. A few days earlier, she had performed mechanical depilation of this area. On initial presentation to a regional dermatologist clinic, the borders of the lesions appeared more intense redness and slight exfoliation of the epidermis. Over time, the changes began to take on the nature of infiltrative inflammatory outbreaks, reminiscent of boils and with

new small-scale changes. The lesions on the lower leg were accompanied by the appearance of 1–2 cm erythematous lesions with slight exfoliation on the skin of the abdomen. The patient had no noted comorbidities and did not take any additional medications other than those prescribed by her dermatologist. The only additional complaint she had was having dry skin and pruritic lesions. The patient had no history of allergies or previous episodes of such skin changes. When the changes first appeared, the patient consulted a regional dermatologist who prescribed a topical glucocorticosteroids preparation in combination with antibacterial agents, considering the changes to be bacterial in nature. The lesions improved with use, but as soon as the medications were discontinued the lesions returned with greater severity. At a subsequent dermatological visit, the patient was prescribed oral antibiotics. Her condition did not improve and her dermatologist referred her to the Poznan University of Medical Sciences Department of Dermatology in Poznan, Poland for further workup.

When the patient presented to the Poznan University of Medical Sciences Department of Dermatology, she had severe tender, nodular, inflammatory lesions of the lower extremities accompanied by pustules and papules (Fig. 1). In addition, the patient's sister was observed to have erythematous and exfoliative lesions on the right elbow, resembling plaque type psoriasis (Fig. 2). Due to the patient's sister being in direct contact with both

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Fig. 1. Photograph of patient's skin lesions on lower extremities on presentation. Severe tender, nodular, inflammatory lesions accompanied by pustules and papules.

the infected guinea pig and patient, samples of the patient's sister's changes were sent to both histopathology and clinical mycology for microbial culturing to insure the changes were mycotic in origin and not psoriasis.

Due to the female patient owning a pet guinea pig, it was recommended that the animal be taken for a veterinary consultation. The guinea pig showed no signs of infection and gross examination was unremarkable. However, samples taken from the animal's fur yielded a fungal organism, which aided in the patient's final diagnosis. A mycological examination at the Poznan University of Medical Sciences' Medical Mycology Laboratory and Dermatology Clinic also yielded positive results. Preliminary scrapings from the skin changes showed mycelium on direct microscopy (Fig. 3). Mycological cultures later identified *Trichophyton mentagrophytes varietas granulosum* as the causative organism (Figs. 4 and 5).

Four weeks of systemic terbinafine was prescribed and was well tolerated by the patient. In addition to the systemic treatment, concurrent topical anti-inflammatory/antifungal preparations (diflucortolone with isoconazole, mazipredone with miconazole, and econazole) were initiated to ensure full penetration. Family members who presented with skin changes, as earlier mentioned with the patient's sister, were only prescribed topical antifungal treatment (diflucortolone with isoconazole and cyclopiroxolamine preparation) [2]. This strategy was considered sufficient by the Poznan University of Medical Sciences Dermatology Team's clinical experience.

After 4 weeks of treatment, a dermatologic improvement was observed in the patient. Only small solitary inflammatory and



Fig. 2. Photograph of sister's skin lesions on right elbow. Inflammatory lesions resembling psoriatic plaques.

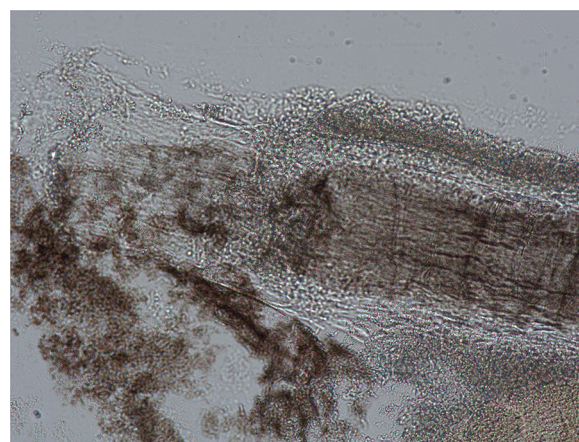


Fig. 3. Preliminary scrapings from the skin changes show mycelium on direct microscopy; spores are observed predominantly located on the surface of the hair shaft (ectothrix) without internalization into the hair cell.

post-inflammatory lesions were observed without any accompanying complaints (Fig. 6). Tolerance of treatment was good. To ensure total eradication of the causative organism, it was decided to extend the therapy regimen by the Dermatology Team an additional 2 weeks, making the entire treatment course a total of 6 weeks. Afterwards, skin changes subsided. A mycological control was recommended and after 6 weeks of therapy, results were negative.

3. Discussion

Majocchi's granuloma can be caused by various types of dermatophytes. The disease is most commonly caused by *Trichophyton rubrum* [3]. Interestingly, in the past, *Trichophyton*

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