

Kerion Celsi with Bacterial Superinfection: A Case Report of Dermatophytosis by *Nannizzia gypsea*

Pedro M. Cabral ¹, Hugo Cruz ², Virgínia Lopes ², Maria Helena Ramos ²

¹ Serviço de Patologia Clínica, Centro Hospitalar Universitário Cova da Beira (CHUCB)

² Serviço de Microbiologia, Departamento de Patologia, Centro Hospitalar Universitário do Porto (CHUPorto)

Introduction

Nannizzia gypsea (*N. gypsea*), formerly *Microsporum gypseum*, is a geophilic dermatophyte with worldwide distribution that can be found predominantly in contaminated soils, but also in domestic animals, such as dogs or cats. *N. gypsea* is an uncommon human pathogen, occasionally causing *tinea corporis* and rarely *tinea capitis*. The main feature of this dermatophytosis is the presence of a significant inflammatory component that easily stimulates inflammatory dermatitis and predisposes bacterial superinfection. When *tinea capitis* exhibits painful inflammation, purulent drainage, and regional lymphadenopathy, it is often classified as *kerion celsi*, and oral antifungal therapy is warranted.

Case Report

An 8-year-old boy, with past medical history of obesity and ADHD, presented at the Pediatric Consultation with a 1-month history of a round, scaly, alopecic lesion on his vertex.

The lesion evolved with tumefaction, pain, pustule formation with purulent drainage, and regional lymphadenopathy.

Further questioning revealed that the child shared his household with a vaccinated, yet not dewormed female dog.



Purulent drainage and cutaneous scales were collected for **bacteriological and mycological studies**, respectively.

The child started empirical oral antifungal therapy with **itraconazole**, as well as scalp application of **ketoconazole** shampoo.



In the follow-up consultation (10 days later), the child had no pain, and the lesion had less inflammatory signs, with less purulent drainage, but he still started targeted oral antimicrobial therapy with **flucloxacillin**, accounting for the *S. aureus* superinfection.

A complete resolution with initial hair growth was observed one and a half months later.

Conclusions

Children are especially vulnerable to geophilic fungal infections, not only because they frequently play in the soil, but also because they often share their household with pets, which can carry these agents asymptotically. **Good practices in Medical Mycology** rely not only on a sharp clinical suspicion, but also on the availability and expertise of dedicated laboratory personnel, that play a critical role in establishing the diagnosis and aetiology of dermatophytosis.

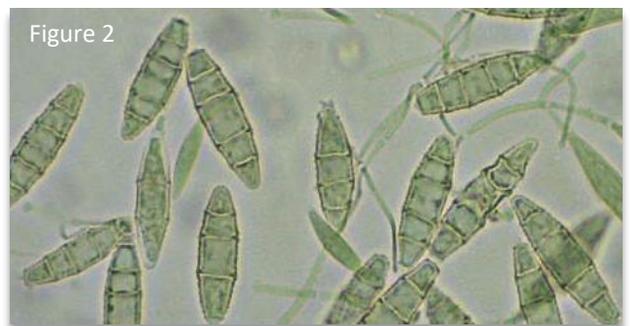
Microbiologic Study

After a 24-hour incubation period at 35±2°C in 5% CO₂, **bacterial culture** in chocolate agar revealed the presence of medium-sized, soft, smooth, slightly golden, catalase and coagulase positive colonies, which were identified by MALDI-TOF MS on VITEK® MS (bioMérieux) as *Staphylococcus aureus*. Antimicrobial susceptibility testing disclosed a multi-sensitive strain.

After a 6-day incubation period at 25±2°C in aerobiosis, **fungal culture** on Sabouraud agar (Figure 1) yielded sand-colored filamentous granular colonies, with a central white fluffy tuft of mycelium and a yellow to orange-tan reverse.



Microscopic examination with lactophenol cotton blue revealed numerous symmetrical, ellipsoidal, four to six-celled macroconidia with round distal ends, allowing the identification of *N. gypsea* (Figure 2).



Bibliography

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