

effective, safe, well-tolerated, time-sparing and not expensive treatment for MP.

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Proximal Subungual Hyperkeratosis of the Big Toe due to *Microsporium gypseum*

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Sir,

Microsporium gypseum is a geophilous dermatophyte, widespread throughout the world, and is sometimes the pathogenic agent of epidermomycoses such as tinea corporis, pedis, cruris, capitis and kerion in persons who have contact with soil. *M. gypseum* is seldom the agent of onychomycosis. Here we report on the case of a 46-year-old farmer of normal immune status, who presented with proximal subungual hyperkeratosis of a toenail caused by *M. gypseum*.

CASE REPORT

A 46-year-old male farmer presented with a 2-month history of proximally friable whitish nail of the left big toe (Fig. 1). The skin of the adjacent nail fold was normal and the other nails and the rest of the skin were without lesions of a mycotic

nature. The patient had had no previous fungal infections or nail trauma and was apparently healthy.

Specimens for mycological examination were obtained from the affected nail using a nail drill. Direct microscope examination after maceration in 30% KOH revealed septate dermatophytic hyphae. The material was inoculated into Sabouraud dextrose agar with chloramphenicol (CAF), with or without cycloheximide. The cultures were incubated at 25–30°C for 4–6 weeks and were examined twice weekly. Colonies only grew on medium with CAF and cycloheximide. After 13 days the colonies were grainy and sand-coloured. Microscope observation showed ellipsoidal macroconidia shaped like cucumber pickles with 5–6 septa (Fig. 2) typical of *M. gypseum*. Nothing grew on agar without cycloheximide. The culture was repeated twice and the results were identical.

The patient had no history of nail trauma, drug use or other skin diseases such as psoriasis or eczema. Lymphocyte subpopulations were normal and an HIV test was negative. The patient declined systemic therapy and was treated with ciclopirox 8% nail lacquer for 3 months. Clinical improvement, however, was followed by onycholysis, and the patient took 100 mg/day itraconazole for 7 days/month, for 3 months, as suggested by his family doctor, without clinical improvement.



Fig. 1. White proximal subungual hyperkeratosis of the left toenail.



Fig. 2. Ellipsoidal macroconidia with 5–6 septa (lactophenol cotton blue, $\times 250$).

On return to our observation, he was treated with 250 mg/day terbinafine for 3 months, starting 4 months after suspension of itraconazole. This therapy led to clinical and mycological recovery.

DISCUSSION

Onychomycoses caused by dermatophytes manifest clinically as distal and lateral subungual onychomycosis, white superficial onychomycosis, proximal subungual onychomycosis and total dystrophic onychomycosis (1). They are most frequently caused by *Trichophyton rubrum*, *T. mentagrophytes* and *Epidermophyton floccosum*, and less often by *T. violaceum*, *tonsurans*, *soudanense*, *shoenleinii* and *megnini*, especially in geographical areas in which the mycetes are the most common pathogens of tinea capitis, in which case onychomycosis occurs through self-inoculation (2). Infections caused by the genus *Microsporum* are rare and are usually due to *M. canis*, which is presumed to have a low affinity for nail keratin.

M. gypseum is a known, but rare, cause of distal and lateral subungual onychomycosis and has never previously been reported to cause proximal subungual onychomycosis. Since 1953, only sporadic cases of onychomycosis due to *M. gypseum* have been reported (3–7) and a small epidemic which broke out among greenhouse workers in Czechoslovakia in the 1970s (8). Since the mycete is a soil saprophyte, especially in soil rich in humus, contagion is prevalently due to direct contact with contaminated soil. Indeed, most cases of onychomycosis have been in farmers. The present case also had a history of contact with the soil. The clinical form was proximal subungual onychomycosis. Diagnosis was based on the criteria of Onsberg (5). According to this author, both direct microscope examination and culture should be positive, and the cultures should be pure. After the attempted treatment with ciclopirox 8% nail lacquer, a drug reported to be effective in onychomycosis caused by *T. rubrum* and with itraconazole, unfortunately administered too briefly at an insufficient dose, recovery was finally achieved with oral terbinafine (9). Our patient had no clinical or biochemical signs of immunodeficiency, which is a condition frequently observed in proximal subungual onychomycosis (10–12), although some cases have been reported recently in persons with normal immune status (13, 14). A

recurrent form has also been reported in a subject with a defect of the polymorphonuclear chemotaxis (15).

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