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CASES FOR DIAGNOSIS

Ulcerated Nodule With Satellite Lesions on the Pulp of the First Finger of an Elderly Male Patient

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Clinical History

An 83-year-old diabetic man was seen for a painful lesion that had appeared on the pulp of the thumb 3 months earlier. The patient did not recall any local trauma and there were no accompanying systemic symptoms.

Physical Examination

Physical examination revealed a nodule of approximately 1 cm in diameter; the deeper part of the nodule was indurated and superficially there was an ulcer with a scab (Figure 1). Satellite lesions were visible within a few millimeters and there was complete onychodystrophy of the nail of that digit.

Figure 1.

Additional Tests

Culture on Sabouraud glucose agar at 25°C produced slow-growing colonies with a mucoid appearance and of black color, both on the surface and underneath (Figure 2). The absence of growth at 40°C was confirmed.
Microscopic study with lactophenol blue revealed septate, pigmented hyphae that branched and formed light brown, oval conidia clustered around the tips of the tapering annelids.

Figure 2.

Histopathology

Histopathological study showed pseudoepitheliomatous hyperplasia of the epidermis and there was a granulomatous inflammatory infiltrate in the dermis composed of histiocytes, eosinophils, and polymorphonuclear cells. Globular structures with a thick, pigmented wall were seen scattered between the inflammatory cells, some of them arranged in the form of a rosary. These structures stained with periodic acid-Schiff (Figure 3), methenamine silver, and Fontana-Masson stains.

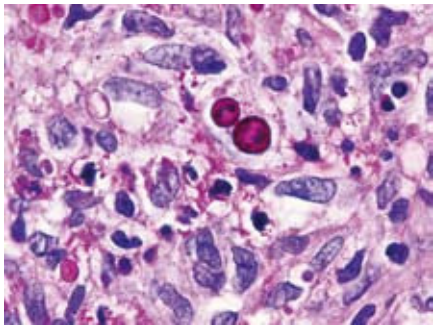

Figure 3. Periodic acid-Schiff, ×400.

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What Was the Diagnosis?

Diagnosis

Cutaneous phaeohyphomycosis due to *Exophiala jeanselmei.*

Clinical Course and Treatment

Treatment was prescribed with oral terbinafine 250 mg/d for 3 months, leading to complete resolution of the lesion.

Discussion

The dematiaceae are a group of pigmented fungi that are found in the environment and that include the genera *Exophiala, Cladosporium, Phialophora, Fonsecae*, and *Wangiella.*[1] The usual mechanism of infection is by traumatic inoculation into the skin of contaminated organic material.

Exophiala species are long-recognized etiologic agents of phaeohyphomycosis and chromoblastomycosis and also rarely of eumycotic mycetoma. In fact, the first 2 conditions are the extremes of a continuum based on a dynamic interaction between the etiologic agents and the host.[2]

Clinically, phaeohyphomycosis has a variable presentation as one or more plaques, nodules, or slow-growing subcutaneous abscesses with a purulent center. Lesions with a peripheral hyperpigmented ring have been described, but the most common clinical presentation consists of a small nodule that affects the skin or subcutaneous tissue in an anatomical region that is susceptible to injury. A foreign body granuloma must therefore be excluded—in contrast to a foreign body granuloma, phaeohyphomycosis runs a chronic course with slow and progressive growth.[3]

Of the 104 species of dematiaceae that can cause phaeohyphomycosis, the most common is *Exophiala jeanselmei.* Patients affected by this fungus are usually adults with debilitating diseases or on immunosuppressant therapy, although infections have been reported in healthy subjects, as in our case.

Ronan et al[4] described 3 histopathological patterns in phaeohyphomycosis: a) parakeratosis, irregular epidermal hyperplasia, and dermal and epidermal microabscesses; b) multilocular, intradermal cystic structures, and c) a single, well-defined dermal cyst.

The microbiological diagnosis can be difficult and requires expert interpretation, as this is a ground-dwelling fungus and may be considered to be a contaminant.

The treatment of phaeohyphomycosis is controversial. Surgery has been proposed as the treatment of choice in small or early lesions; other authors favor the use of itraconazole before or after surgical excision. A number of cases reported in the literature have shown resistance to combinations of various antifungal agents. However, there have been cases in which terbinafine has been found to be effective, as occurred in our patient.[5] In vitro studies on the sensitivity of other subtypes of *Exophiala* to various antifungal agents have shown that terbinafine, itraconazole, and amphotericin B are the most active.[6]

In conclusion, we present a new case of this rare condition and reiterate the importance of the search for associated indirect signs, such as the onychodystrophy seen in our case. We also draw attention to the good clinical course with terbinafine in this patient, though follow-up is important due to the high frequency of recurrence.

Conflicts of Interest
The authors declare no conflicts of interest.

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