

Quiz

Subcutaneous cystic swelling in a leprosy patient

A 45-year-old male attended the hospital with complaints of a subcutaneous swelling over the dorsum of the right hand since 6 months. He had been diagnosed as a case of lepromatous leprosy 4 years earlier and treated with the WHO multibacillary multidrug regimen for 24 months. After 6 months of starting MDT, the patient started getting recurrent erythema nodosum leprosum for which he received systemic prednisolone off and on. He developed the subcutaneous swelling while on oral corticosteroid treatment (Total cumulative dose of 12600 mg in last 2 years with maximum dose of 40 mg per day) for control of type II lepra reaction. There was no history of trauma preceding the onset of the lesion.

On examination, a single, well-defined, irregular swelling was found over the dorsal aspect of the right hand overlying the base of the right ring finger [Figure1]. It measured approximately 3 cm x 3 cm in size. The overlying skin was slightly erythematous. An ulcerated lesion was present towards the distal end of the swelling. On palpation, the lesion was found to



Figure 1: Nodulocystic swelling on the dorsum of the right hand

be a soft, slightly fluctuant, subcutaneous cyst, freely mobile in all directions, without any adherence to the underlying structures. The skin over the cyst was slightly warmer than the surrounding skin. There was no regional lymphadenopathy. Hemogram, urine routine and microscopy and chest X-ray revealed no abnormalities. Thick pus, which showed plenty of neutrophils without any bacteria, was aspirated from the cyst. Photomicrographs of H/E and PAS stained sections are shown in Figures 2 and 3.

WHAT IS YOUR DIAGNOSIS?

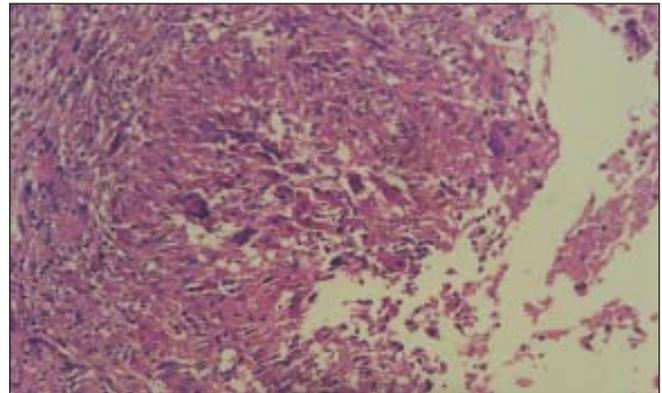


Figure 2: Wall of the cyst composed of dense fibrous tissue and granuloma consisting of epithelioid cells, foreign body giant cells and lymphocytes (H&E, x 400)

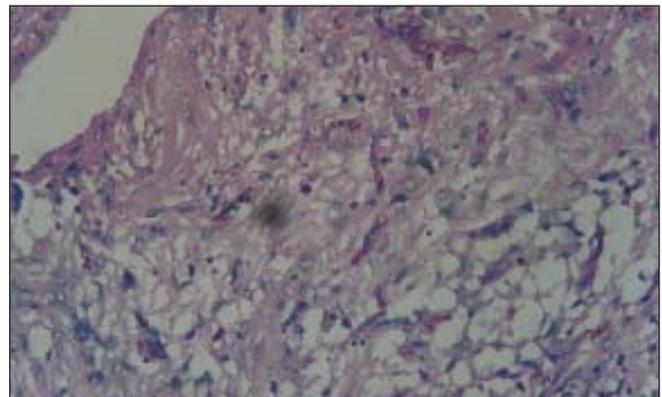


Figure 3: A PAS-stained section showing fungal filaments (PAS, x 600)

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Diagnosis: Subcutaneous phaeohyphomycosis

DISCUSSION

Histopathology revealed a cystic cavity containing necrotic material. The wall was composed of dense fibrous tissue, epithelioid cells, numerous Langhans and foreign body giant cells and lymphocytes [Figure 2]. Numerous fungal hyphae were present in the inflammatory infiltrate. They were broad, haphazardly branched and the walls varied in shape and thickness. Periodic acid Schiff (PAS) stain clearly demonstrated the presence of fungal hyphae [Figure 3]. Culture for fungus showed growth of *Exophiala jeanselmei*.

The term “phaeohyphomycosis” was coined in 1974 to describe infections with dematiaceous, septate mycelial elements in the tissue.^[1] Though subcutaneous phaeohyphomycosis is more common in the tropics and in immunosuppressed patients on prolonged steroid therapy^[2], it may also occur in immunocompetent persons.^[3] Phaeohyphomycosis is a rare, and usually localized, subcutaneous or intramuscular infection, typically a cyst or abscess, caused by any one of over a 100 species^[4] of dematiaceous fungi. Common causes are *Exophiala jeanselmei*, *Exophiala dermatitidis* and *Bipolaris*. Recently, Girard et al^[5] reported a case of subcutaneous phaeohyphomycosis caused by *Pyrenochaeta romeroi* in a leprosy patient.

The pathogen is probably by implanted from an exogenous source. Infection begins with a firm, sometimes tender nodule, which may develop into a large cyst up to several centimeters in size.

Histopathology with the help of special fungal stains like PAS and Grocott's stains will help confirm the diagnosis. It is important to exclude other cystic structures such as Baker's cysts. The fungi can be seen in the granulomatous lining of the cyst wall. The organisms are not usually difficult to grow from the lesion, but identification of the subspecies sometimes requires help from a specialist. The usual treatment is surgical excision. Itraconazole is often recommended after surgery to reduce the chances of recurrence, particularly in immunosuppressed patients.^[6]

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