

Human exophiala infection

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Abstract

A 38-yr old female from a rural area presented with a chronic erythematous plaque on the face of 18 yrs duration, which was an asymptomatic slowly progressing lesion.

Histology revealed granulomatous inflammatory reaction with fungal hyphae and spores and exophiala sp was isolated from tissue biopsy. There was a satisfactory response to amphotericin B. Exophiala are dermataceous fungi that rarely causes human infection in the immunocompetent.

This is the first published report of human exophiala infection in Sri Lanka.

Case report

A 38-yr old female from Mahiyangana, a rural area in Sri Lanka presented with an erythematous plaque over the left cheek of approximately 18 yrs duration (Figure 1). The lesion had an insidious onset and was asymptomatic. She could not recall any major traumatic event at the site of lesion but claims that minor abrasions may have occurred while collecting firewood in the shrubs.

This patient did not have any evidence of immunodeficiency or any systemic illness such as diabetes mellitus. Gradual enlargement of the lesion had occurred over the years, which has led the patient to seek treatment. Examination revealed an intensely erythematous indurated plaque (4 x 3 cm) with fine scaling on the left cheek. It was not tender and was not attached to deeper structures.

Except for the facial lesion she had a completely normal physical examination and routine haematological and metabolic investigations and the chest x-ray were all within normal levels.

Histology of a biopsy from the lesion showed pseudoeplitheliomatous hyperplasia with granulomatous inflammatory reaction in the upper dermis with histiocytes, lymphocytes and multinucleated giant cells. Fungal hyphae and spores were seen in the upper dermis and keratin layer. Acid fast staining and culture for *M. tuberculosis* was negative from the skin biopsy.

Biopsy specimen revealed fungal hyphae on direct microscopy with 10% KOH.

Culture on Sabouraud's Dextrose agar grew colonies which were initially black and pasty later becoming velvety.



Figure 1

Microscopic morphology showed septate, olivaceous hyphae with ellipsoidal annelloconidia accumulating at the tip of brown pigmented annellides or slimming down its length (Figure 2).



Figure 2

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While awaiting the fungal culture report the patient was treated with itraconazole 100 mg bd for approximately 2 months. Skin lesions partially responded to itraconazole but with cessation of therapy the lesion reappeared within a few weeks. But subsequent in vitro antifungal susceptibility tests were reported as the fungus being sensitive to amphotericin B but resistance to itraconazole.

After 2 doses of amphotericin B administration the patient developed chest pain, and the drug had to be discontinued and the patient was started on voriconazole 100 mg bd. Since there was no significant response after 1 month of treatment, patient was restarted on amphotericin at a lower dose ($0.5 \text{ mg/Kg}^{-1}/\text{a}^{-1}$). This time there were no treatment complications and after 1 month of treatment the lesion became impalpable with almost complete clearing up of erythema (Figure 2). The repeat culture after treatment as well as the direct smear were negative for the fungus.



Figure 3

Discussion

Exophiala belongs to the pigmented or dermatiaceous group of moulds. Exophiala species are common environmental fungi associated with decaying wood

and soil enriched with organic waste. However, several species notably *E. jeanseimeii*, *E. monilae* and *E. spinifera* are well documented human pathogens. These fungi are known to penetrate the skin predominately in the extremities through subclinical trauma. Immunosuppression, notably in cell mediated immunity is considered a major cause of susceptibility. However, exophiala species has been reported albeit rarely in subjects with no obvious predisposing factors. Therefore our patient who did not show any evidence of immunosuppression clinically or during investigations also belongs to this minority. It could be assumed that she had acquired the infection through a minor trauma not sufficient to leave a memory during the firewood gathering sessions at the shrubs.

Clinical manifestations vary from localized infections of the superficial keratin to subcutaneous locations, that present as slow growing asymptomatic encapsulated cysts or nodules. The extreme slow growing nature (ie. 18 years) of this lesion was an interesting feature about our patient but the asymptomatic well demarcated indurated plaque was in keeping with the described patterns.

According to the literature the course of the disease is chronic but self limiting. In rare instances spread to internal organs causing endocarditis, encephalitis, lung infections etc had been reported.

References

1. Calista D et al. Subcutaneous exophiala jeanseimeii infection in a transplant patient. *European Journal of Dermatology* 2003; 13(5).
2. Brownell I et al. Eumycetoma. *Dermatology Online Journal* 11(4): 10.
3. Negroni R et al. Posaconazole treatment of disseminated phaeohyphomycosis due to exophiala spinifera. *Chicago Journal of Clinical Infectious Disease* 2004; 38: e15 - e20.
4. Mycology online. Phaeohyphomycosis.