CASE REPORT

SUBCUTANEOUS PHAEOHYPHOMYCOSIS BY *Exophiala jeanselmei*
IN A CARDIAC TRANSPLANT RECIPIENT

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SUMMARY

We report a case of phaeohyphomycosis caused by *Exophiala jeanselmei* in a cardiac transplant recipient maintained on immunosuppressive therapy with mycophenolate mofetil tacrolimus and prednisone. The lesion began after trauma on the right leg that evolved to multiple lesions with nodules and ulcers. Diagnosis was performed by histological examination and culture of pus from skin lesions. Treatment consisted of itraconazole (200 mg/day) for three months with no improvement and subsequently with amphotericin B (0.5 mg/Kg per day to a total of 3.8 g intravenously). After four months of treatment, the lesions showed marked improvement with reduction in the swelling and healing of sinuses and residual scarring.

KEYWORDS: *Exophiala jeanselmei*; Phaeohyphomycosis; Subcutaneous infections.

INTRODUCTION

Phaeohyphomycosis is a term introduced by AJELLO et al. in 1974 and it is used to describe subcutaneous and systemic diseases caused by a variety of dematiaceous fungi that develop in the form of darkly pigmented yeast-like cells, hyphae and pseudohyphae in infected tissue. Several species of *Exophiala*, *Cladosporium*, *Alternaria* and other genera of fungi have been recognized as agents of subcutaneous phaeohyphomycosis. The genus *Exophiala* is widely distributed in the environment and may cause infections in both immunocompromised and immunocompetent patients. We report a case of subcutaneous phaeohyphomycosis caused by *Exophiala jeanselmei* in a patient with a cardiac transplant.

CASE REPORT

A 48 year-old man was admitted to the “Hospital de Doenças Tropicais de Goiânia” with a nodule on the right lower leg. The lesion began after trauma on the right leg that evolved to nodules and ulcers (Fig. 1). He had undergone cardiac transplantation eight months before immunosuppressive therapy included mycophenolate mofetil (3 mg/day), tacrolimus (5 mg/day) and prednisone (20 mg/day).

Direct examination of the pus from lesion revealed branched pale-brown hyphae and rounded thick-walled vesicles. Histopathological examination of tissue sections of a skin biopsy from the lesion showed mild hyperplasia of the epidermis and suppurative granulomatous inflammation in dermis with budding yeasts and dematiaceous hyphae (Fig. 2a). Cultures obtained on Sabouraud dextrose agar, produced dark, moist, olive to black yeast-like colony (Fig. 2b). Microscopically, the long mycelium, thick-walled septate conidiophores with a ball of conidia (annelophores) at the tip were visualized (Fig. 2c).

The patient received oral itraconazole (Sporanox), 200 mg daily for three months, but no improvement was noted. Antifungal susceptibility testing of the isolate was accomplished by Etest method. Minimal Inhibitory Concentration (MIC) were 1 µg/mL for amphotericin B (Fungizone, Squibb, US) and 64 µg/mL for itraconazole. Antifungal treatment with amphotericin B was started. The dose regimen was 0.5 mg/Kg per day (alternate days) to a total of 3.8 g intravenously. After four months of treatment, the lesion showed marked improvement with reduction in the swelling and closure of sinuses and residual scarring of the tissue.

DISCUSSION

Dematiaceous fungi can produce three different types of infection, i.e. phaeohyphomycosis, chromoblastomycosis and mycetoma. Unlike chromoblastomycosis or mycetoma, there are no muriform cells nor grains in phaeohyphomycosis1,10. Phaeohyphomycosis is a mycosis that usually presents as single cyst or abscess on exposed area. This infection is most common in patients with underlying problems and has been reported after trauma to the skin7. In 54 cases of dematiaceous infections caused by Exophiala jeanselmei, underlying diseases were identified in 23 cases7. The present patient showed multiple nodules and ulcers on the right leg and a history of local trauma months before the appearance of the lesion. This patient had undergone cardiac transplantation and its immunosuppressive regimen included mycophenolate mofetil, tacrolimus and prednisone, suggesting that the main reason for this disease in this case was the immunodeficiency.

Diagnosis and identification were made by direct examination with KOH, histopathological examination of tissue specimens and culture. Dematiaceous hyphae were seen in our patient specimens. These characteristics are essential to confirm phaeohyphomycosis.

Isolates of E. jeanselmei grow up as a yeast-like colony, later on changing to a mould8. In the present case, cultures produced dark, a moist, olive to black yeast like colony that did not change after two months of incubation.

No improvement was observed with the administration of oral itraconazole, however marked reduction in the swelling and closure of sinuses was obtained after treatment with amphotericin B. This drug was used because susceptibility test showed high sensibility to this drug (MIC = 1 µg/mL). Both antifungal agents, either alone or in combination, have been reported with variable cure rates1.

RESUMO

Feohifomicose subcutânea por Exophiala jeanselmei em um transplantado cardíaco

Este trabalho relata um caso de feohifomico subcutânea causado por Exophiala jeanselmei em um paciente que havia recebido transplante de coração e mantinha terapia com micofenolato mofetil, tacrolimus e prednisona. As lesões tiveram início após trauma na perna inferior direita que evoluíram produzindo múltiplos nódulos e úlceres. Diagnóstico foi realizado através de avaliação histológica e de características macroscópicas e microscópicas da cultura das lesões da pele. O paciente fez uso de itraconazol em concentração de 200 mg/dia durante três meses, não se observando no entanto, melhora das lesões. Após este período, o paciente foi tratado com anfotericina B a uma concentração de 0,5 mg/Kg/dia totalizando 3,8 g. Após quatro meses de tratamento as lesões mostraram melhora evidente, verificando-se fechamento das fistulas e cicatrização das lesões.

REFERENCES


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