CASE REPORT

Phialemonium curvatum INFECTION AFTER BONE MARROW TRANSPLANTATION

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SUMMARY

We report a case of cutaneous infection caused by Phialemonium curvatum GAMS et COOKE, 1983, after bone marrow transplantation. The genus Phialemonium was created by GAMS & MCGINNIS in 1983 including three new species: Ph. obovatum, Ph. curvatum and Ph. dimorphosporum, and represents an intermediate genus between Acremonium and Phialophora. Nowadays, the genus Phialemonium is considered to be a phaeoid fungus which may cause the eventual lesions observed in phaeo- and hyalohyphomycosis. Species of this genus have been described as opportunistic agents in humans and animals, mainly as a result of immunosuppression. In the present case, the patient had multiple myeloma and received an allogenic bone marrow transplant from his HLA-compatible brother. Two months after transplantation, he developed purplish and painful nodular lesions on the right ankle. Some of these lesions drained spontaneously and apparently hyaline mycelial filaments were observed, whose culture was initially identified as Acremonium sp. Subsequent studies showed that the fungus was Phialemonium curvatum. The infection was treated with amphotericin B, followed by ketoconazole. The patient was submitted to surgical debridement followed by two skin grafts to repair the bloody area. The duration of the treatment was 4 months and secondary prophylaxis with ketoconazole alone was maintained for one additional month. No recurrence was observed after discontinuation of treatment. The authors comment on the pathogenicity of the genus Phialemonium.

KEYWORDS: Phialemonium curvatum; Bone marrow transplantation; Phaeohyphomycosis; Hyalohyphomycosis.

INTRODUCTION

Phaeohyphomycosis is an infection caused by a large number of genera and species of dematiaceous fungi, which can affect cutaneous and subcutaneous tissues, the ocular region, frontal and maxillary sinuses, lungs, bones and the nervous system. Although the fungal elements observed in the tissue have been described as dematiaceous, melanin is not always easily visualized.

In some cases, it is necessary to carefully examine various histological sections before the dematiaceous nature can be established. In phaeohyphomycotic infections caused by Alternaria alternata, Bipolaris spicifera, Exophiala jeaneselmei or E. spinifera, most fungal elements are found to be hyaline. The presence of melanin in the fungal cell wall is determined by Fontana-Masson staining.

Factors predisposing to fungal infection are antibiotic therapy for the treatment of chronic bacterial infections, post-transplant immunosuppressive therapy and HIV infections.

The genus Phialemonium, an intermediate genus between Acremonium and Phialophora, created by GAMS & McGINNIS in 1983, comprises three species according to these authors: Ph. obovatum; Ph. curvatum and Ph. dimorphosporum. HOOG & GUARRO (1995) accepted the species Ph. curvatum and Ph. obovatum.

AJELLO (1986), MATSUMOTO et al. (1994), MATSUMOTO & AJELLO (1998), KWON-CHUNG & BENNETT (1992) and MISHRA et al. (1992) consider the genus Phialemonium to be an agent causing phaeohyphomycosis. This genus was also considered to be an agent of hyalohyphomycosis by MATSUMOTO et al. (1994) and MISHRA et al. (1992).

The colonies of this phaeoid hyphomycete are expanding, presenting scarce white mycelium which sometimes turns yellow-greyish. Phialoconidia are produced from inconspicuous collarettes or from discrete, lateral, tapering phialides, often without basal septa. Conidia are hyaline, smooth and thin-walled, cylindrical to allantoid, grouped in slimy heads.

KING et al. (1993), when describing one case of a phaeohyphomycotic cyst and another of peritonitis caused by species of the genus Phialemonium, believed that Ph. curvatum and Ph. dimorphosporum form a complex, with strong evidence indicating that the latter species resembles more intimately to Ph. curvatum.
We report a case of *Phialemonium curvatum* infection in a patient submitted to bone marrow transplantation. The authors also alert mycologists about the rarity of the case and the increasing occurrence of emerging fungi in immunocompromised patients.

**CASE REPORT**

F. F. de S., a 30-year-old male, an Elementary School teacher from Ceará, Brazil, with multiple myeloma received an allogenic bone marrow transplant from his HLA-compatible brother. The patient received busulfan and melphalan for transplantation conditioning and cyclosporin A and methotrexate for graft-versus-host disease (GVHD) prophylaxis. On the 32nd day post-transplantation, acute GVHD was diagnosed, which was controlled with solumedrol (2 mg/kg/day) pulse therapy. One month later, a new episode of acute GVHD led to the introduction of pulse therapy using high doses of solumedrol (5 mg/kg/day). The patient improved slowly and developed a gastrointestinal disease caused by cytomegalovirus on the 98th day, responding to treatment with ganciclovir. Cyclosporine...

The sample isolated in the present study was identified as *Ph. curvatum* due to the presence of allantoid conidia. The authors intend to alert mycologists and clinicians about the rarity of the case and the increasing occurrence of opportunistic fungi in immunocompromised patients.
RESUMO

Infecção por *Phialemonium curvaturn* pós-transplante de medula óssea.

Os autores registram caso de infecção cutânea em transplantado de medula óssea provocada por *Phialemonium curvaturn* Gams et Cooke, 1983. O gênero *Phialemonium* foi criado em 1983 por Gams & McGinnis, com três novas espécies: *Ph. obovatum*, *Ph. curvaturn* e *Ph. dimorphosporum*, sendo intermediário entre *Acremonium* e *Phialophora*. Atualmente este fungo é considerado como feóide, podendo provocar eventuais lesões de feo ou hialo-hifomicose. Espécies deste gênero vêm sendo descritas como agentes oportunistas em seres humanos e em outros animais, principalmente na vigência de imunossupressão. No caso que registramos, o paciente era portador de mieloma múltiplo, tendo recebido transplante halogênico sendo doador seu irmão, HLA-compatível. Dois meses após o transplante, lesões nodulares, arroxeadas e dolorosas surgiram no tornozelo direito. Algumas dessas lesões drenaram espontaneamente, com a demonstração de filamentos micelianos aparentemente hialinos, cultivando-se *Ph. curvaturn* inicialmente identificado como *Acremonium* sp. Foi instituído tratamento com anfotericina B e, posteriormente, itraconazol. Debridamento cirúrgico das lesões foi instituído com dois enxertos cutâneos para fechamento da área cruenta. Profilaxia secundária com cetocoanazol, mantida por mais de um mês e depois suspenso, sem recidiva do processo. Os autores fazem comentários sobre a patogenicidade do gênero *Phialemonium*.

REFERENCES


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