□ LETTERS TO THE EDITOR □

Systemic Infection due to *Acremonium* after Allogeneic Peripheral Blood Stem Cell Transplantation

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Acremonium, formerly known as *Cephalosporium*, is ubiquitously present in soil, insects, plants, and other environmental substrates (1). In rare cases, *Acremonium* has caused local infection in humans. Disseminated infections are even more rare, with the reported cases being limited to immunocompromised patients (1). Here, we report a patient with myelodysplastic syndrome (MDS) with profound neutropenia who developed disseminated *Acremonium* infection during treatment with micafungin.

A 34-year-old woman with MDS underwent allogeneic cord blood transplantation from an unrelated donor after being conditioned with total body irradiation and high-dose cytarabine. The graft was rejected, and then she underwent allogeneic peripheral blood stem cell transplantation from her mother. She was conditioned with cyclophosphamide, fludarabine, and anti-thymocyte globulin. Graft engraftment was achieved. Around day 35, pancytopenia developed, and the relapse of MDS was diagnosed. She remained severely neutropenic and received high-dose glucocorticoid therapy for severe graft-versus-host disease (GVHD). On day 100 post-transplant, when she had been on fluconazole for 4

months, a chest roentgenogram revealed pulmonary infiltrates on the left upper lobe with an increased serum level of beta-D-glucan. Fluconazole was discontinued, and micafungin was initiated at a daily dose of 300 mg. In spite of the therapy with micafungin, her pulmonary infiltrates extended. Multiple painful erythematous papular skin lesions developed on her extremities and back. The culture of a specimen obtained from these papules and blood grew *Acremonium* species. She died due to respiratory failure. The minimum inhibitory concentration (MIC) of micafungin against an isolate was later examined, and was found to be 0.125 µg/ml.

In this case, pneumonia due to *Acremonium* progressed to disseminated fungemia and multiple skin lesions even after the prompt initiation of micafungin, indicating that micafungin was clinically ineffective against *Acremonium*. Previous studies evaluating the activity of anti-fungal agents against *Acremonium* both *in vitro* and *in vivo* indicated that amphotericin B, itraconazole, and voriconazole are promising agents for the treatment of *Acremonium* infection (1, 2). Micafungin is a compound of the echinocandin class that acts by inhibiting the production of 1,3-beta-D-glucan, a key component in fungal cell wall synthesis in molds and yeasts. However, investigation into the activity of echinocandins against *Acremonium* has been limited to two previous reports, in which these compounds were shown to exert limited activity against *Acremonium strictum* (3, 4). Indeed, micafungin was clinically ineffective against *Acremonium* infection in the present patient with a markedly elevated serum level of 1,3-beta-D-glucan, and the MIC of micafungin against the isolate was higher than those of *Aspergillus* species (0.008-0.017 µg/ml) (5).

In conclusion, physicians should be aware that *Acremonium* is one of the causative fungi of systemic infection in severely immunocompromised patients who have been on either fluconazole or micafungin.

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