References


Successful Treatment of Trichosporon beigelii Pneumonia with Itraconazole

Among patients with neoplastic diseases who are undergoing myeloablation, a growing number of uncommon fungal pathogens (including Trichosporon beigelii) have been reported to cause infection [1, 2]. Amphotericin B has limited activity against T. beigelii [3]. On the basis of in vitro studies, some authors have suggested treatment with triazole compounds [4, 5]. We describe a patient with T. beigelii pneumonia whose condition responded to therapy with itraconazole.

A 42-year-old woman with inflammatory breast carcinoma and neutropenia after peripheral blood progenitor cell transplantation, had fever and chest pain without radiographic evidence of pneumonia 5 days after infusion. She was receiving ofloxacin (200 mg b.i.d.) and fluconazole (200 mg/d) as prophylaxis for infection, and empirical therapy with broad-spectrum antibiotics was started. Because of persistent fever, therapy with amphotericin B (1 mg/[kg:d]) was initiated 72 hours later. The patient remained febrile for 1 week, despite granulocyte engraftment on posttransplantation day 12. At this time a CT scan of the chest demonstrated patchy reticulonodular infiltrates (figure 1). Because of the persistent fever, itraconazole therapy (400 mg t.i.d.) was added to the therapy with amphotericin B. The patient became afebrile 2 days later, and itraconazole therapy was continued for 2 weeks. T. beigelii was isolated from sputum cultures performed 2 days before treatment with itraconazole was initiated. Because of the presence of thrombocytopenia, invasive diagnostic procedures such as bronchoscopy were not undertaken.

In immunocompromised patients, T. beigelii pneumonia appears as part of a systemic infection, and localized pneumonia without dissemination has been described in a few patients [5]. Diffuse alveolar infiltrate is the most common finding on chest radiographs. However, there are no distinctive radiographic features, with findings ranging from bronchopneumonia to lobar consolidation or patchy reticulonodular infiltrates [2, 5]. Therefore, the diagnosis of T. beigelii pneumonia is based on the clinical manifestations and on microbiological confirmation [5]. T. beigelii has been isolated from cultures of blood, sputum, and urine [2, 5, 6]. A positive sputum culture indicates colonization that may progress to trichosporonemia and invasive infection in neutropenic patients [2, 5]. However, a negative surveillance culture does not exclude a diagnosis of trichosporonosis [2].

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Figure 1. CT scan of the chest showing large, nodular, rounded and reticulonodular infiltrates in the right and left lung suggestive of fungal infection in a 42-year-old patient with pneumonia due to Trichosporon beigelii.
The evolution of infection due to *T. beigelii* is often fatal, and progression of trichosporonosis in patients receiving amphotericin B has been reported [2, 6, 7]. In our case, itraconazole therapy was administered for two reasons following lack of response to treatment with amphotericin B. First, some reports suggest that invasive aspergillosis, which is resistant to amphotericin B therapy, will sometimes respond to treatment with itraconazole [1]. On the other hand, there are infections caused by uncommon fungal pathogens that are often unresponsive to treatment with amphotericin B [1, 3, 7]. On the basis of experimental [4, 5] and clinical results [8, 9], some authors have proposed azoles as effective therapy for *T. beigelii* infection. Itraconazole has higher in vitro activity than amphotericin B [5]. Our patient was afebrile after 2 days of itraconazole therapy. This response could be attributed directly to itraconazole therapy because the combination of amphotericin B with azoles has not shown synergy against *Trichosporon* species [2]. Therefore, *T. beigelii* pneumonia can be treated effectively with itraconazole, although some authors propose a combination of amphotericin B and a triazole [4]. Treatment with higher doses of itraconazole should achieve adequate serum levels.

References


Candida tropicalis Osteomyelitis: Case Report and Review

Osteomyelitis due to *Candida* species is an unusual but recognized entity in immunocompromised patients, neonates, and patients with intravascular access devices. A recent case of *Candida tropicalis* osteomyelitis at our institution, St. Jude Children’s Research Hospital in Memphis, prompted a review of our medical database and of the available literature. Two prior cases at this institution were identified, and 11 cases were reported previously from other hospitals. We describe one immunocompromised child with *C. tropicalis* osteomyelitis.

In August 1996, on day 28 of induction therapy for acute lymphoblastic leukemia, a 5-year-old boy was admitted to our hospital for suspected septic arthritis of the knee; he had neutropenia and fever. He did not have a central venous catheter in place, and he had no history of surveillance cultures positive for *Candida* species. He reported the occurrence of a minor fall 3 days before admission. An MRI on hospital day 2 revealed an area consistent with osteomyelitis in the distal femur, adjacent to the knee. On hospital days 4 and 6, purulent fluid was aspirated from the knee; cultures of each aspirate yielded *C. tropicalis*. Therapy with amphotericin B (1 mg/[kg·d]) and rifampin (20 mg/[kg·d]) was initiated on hospital day 5. Clinical improvement corresponded to a rise in the patient's neutrophil count. Six weeks after therapy was begun, physical examination revealed complete clinical resolution of the osteomyelitis and arthritis, and treatment was discontinued.

Two additional cases of *C. tropicalis* osteomyelitis were identified at this institution by a review of medical records. Data on 11 cases from the literature and the three cases from our institution are summarized in table 1. The clinical presentations in the 14 cases fell into three groups and could be correlated with the age at onset. Five of the six adults had vertebral involvement manifested by back pain, usually chronic in nature. The children tended to have osteomyelitis in the metaphyses of the long bones, similar to what is observed in cases of pediatric bacterial osteomyelitis, often associated with a contiguous focus of infection. All of the three premature neonates had a sepsis-like picture as well as septic arthritis and involvement of multiple bones, both long bones, and vertebral bodies.

Blood cultures were reported positive for *C. tropicalis* at the time of presentation or before presentation for eight patients, urine cultures were reported positive for eight patients, and both urine and blood cultures were reported positive for five patients. Five patients, including all three premature neonates and two of the three immunocompromised children, had disseminated disease with positive blood cultures and multiple sites of involvement. Of these two immunocompromised children, both from our institution, one had two long bones involved, and one had a metacarpal and multiple abdominal sites involved. None of the adults had disseminated disease. Findings on plain radiographs supported a diagnosis.