Breakthrough disseminated fusariosis in an immunocompromised patient on voriconazole therapy

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Voriconazole, a broad-spectrum antifungal agent, has been successfully employed in patients with opportunistic fungal infections, yet recent reports of breakthrough fungal infections in patients on long-term voriconazole therapy have appeared. A 67-year-old man with fever and myalgia complained of several erythematous nodules on his face and extremities. He had been diagnosed with acute myeloid leukemia and had completed induction chemotherapy with daunorubicin and cytosine arabinoside. However, he had a fever refractory to broad-spectrum antibiotics, and chest CT suggested invasive pulmonary aspergillosis. He was therefore commenced on 4 mg/kg voriconazole twice daily. With continuation of voriconazole, he received consolidation chemotherapy. Three weeks after chemotherapy, several erythematous nodules developed on his face and lower legs, and, at the time of presentation, he had additional new lesions on his arm and foot. A breakthrough fungal infection was suspected and a skin biopsy revealed septated hyphae suggestive of a fungus. We prescribed amphotericin B (1 mg/kg) in combination with voriconazole. Because culture on Sabouraud agar failed to show fungal growth, we sequenced the 28S rRNA gene to identify the isolate. The 556 bp sequence was 100% homologous to that of Fusarium solani (556/556). Based on the report that this fungus responded to amphotericin B, we discontinued voriconazole and continued amphotericin B therapy.