current disease and death. Finally, our (unpublished) results of follow-up of 760 patients who were infected during the period from October 2003 through March 2007 indicate that 55 patients (7%) died within 1 week after their last positive fecal toxin test result, 90 (12%) died within 1–4 weeks after the result, and 111 (15%) within 1–6 months after the result, yielding a total associated mortality of 34% within 6 months.

A limitation of this follow-up study is the absence of stool cultures and molecular analysis to determine whether relapse or reinfection was responsible. Earlier reports implicate new infecting strains in 13%–60% of cases of recurrent disease [4–7]. The high rate of recurrent disease in our patients might argue in favor of relapse or reinfection. Relapse is likely, because metronidazole concentrations in the colon decrease rapidly as diarrhea subsides and spore forms of *C. difficile* are able to persist. Reinfection is likely, because some of our patients were discharged to nursing facilities where *C. difficile* may be prevalent in the environment, and those who were discharged to their homes may have contaminated their home environment with *C. difficile* spores; in this latter instance, even bacterial fingerprinting would not distinguish relapse from reinfection. Taken together, these observations appear to reinforce our pervasive emphasis [8, 9] on prevention of—rather than treatment for—*C. difficile* infection.

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Scedosporium apiospermum Lung Infection with Fatal Subsequent Postoperative Outcome in an Immunocompetent Host

To the Editor—Invasive infections due to Scedosporium apiospermum (teleomorph, *Pseudallescheria boydii*), have been increasingly reported in immunosuppressed patients in recent years, mainly in patients with hematological malignancy and patients with hematopoietic or solid-organ transplants, but also in HIV-in-

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The patient, a 68-year-old man, was admitted to our hospital (Avicenne Hospital, Bobigny, France) complaining of dyspnea, hemoptysis, weight loss, asthenia, and a 6-month history of anorexia, night sweats, and pyrexia. Physical examination findings included cachexia, hyperpyrexia, and purulent sputum. The patient had a biological inflammatory syndrome without leukocytosis. The patient had had lung tuberculosis 40 years before. Chest radiographs and CT showed a large thick-walled cavity with devious necrotic material affecting the right upper lobe and parenchymatous consolidation in the medium lobe. Neither *Mycobacterium tuberculosis* nor nonspecific bacteria grew from any of the bronchial washing and sputum specimens. Mantoux test results and the results of tests for *Aspergillus* antibodies and galactomannan were negative. A 3-week culture of sputum and bronchial washing samples grew *S. apiospermum*. Serological test results were strongly positive. MIC values (determined using the European Committee on Antimicrobial Susceptibility Testing method) were 0.25 μg/mL, 2 μg/mL, 2 μg/mL, and >8 μg/mL for voriconazole, itraconazole, caspofungin, and amphotericin B, respectively. Serological test results were negative for HIV. The
patient had no history of smoking, diabetes mellitus, or corticotherapy. Therefore, therapy with oral voriconazole was started. One month later, because of persistence of fever, dyspnea (hypoxia), weight loss (to 40 kg), and lack of improvement visible on a new chest CT, an upper and middle lobectomy was performed after pleuropulmonary decortication and resection of the cavernous lesion. Postoperative course showed a severe controlateral pneumonia (on day 8 after the surgical procedure) with respiratory failure leading to death (on day 13). Histological examination of surgical specimens showed septate hyphae within and outside the cavernous lesion, and culture grew S. apiospermum.

In immunocompetent hosts (except for those who have experienced near-drowning accidents), lung infection due to Scedosporium species is a rare event and usually follows fungal colonization occurring on a previously damaged lung tissue, such as a cavity or a lung cyst [3–7], and except for 1 patient who was lost to follow-up, all published cases were cured by antifungal therapy and/or surgery. Indeed, infections caused by Scedosporium species are mainly due to S. apiospermum and Scedosporium prolificans, both of which are antifungal-resistant opportunistic pathogens. S. apiospermum is almost always resistant to amphotericin B. Therefore, surgical resection has been the preferred treatment for localized disease for a long time [8]. Currently, voriconazole, which has good in vitro activity against S. apiospermum (MIC, 0.12–0.5 μg/mL), is the drug of choice [9]. Posaconazole and ravuconazole are also effective. Echinocandins have some activity in vitro, although less than voriconazole, posaconazole, and ravuconazole [1].

In a review of infections due to Scedosporium species in transplant recipients [1], the overall mortality rate was 58%, and this decreased when voriconazole was substituted for amphotericin B and when adjunctive surgery was added to the medical treatment. No impact on the outcome was observed when amphotericin B was combined with an azole drug. Combinations with amphotericin B, fluconazole, or terbinafine have recently shown an indifferent effect against S. apiospermum, whereas combinations including an azole (e.g., itraconazole, voriconazole, posaconazole, or ravuconazole) and an echinocandin (e.g., caspofungin, micafungin, or anidulafungin) exhibited synergy against most of the S. apiospermum isolates analyzed [10].

Our case report highlights the importance of differential diagnosis in infections of preexisting lung cavities in immunocompetent patients, including tuberculosis, common bacterial infections, infection due to Aspergillus species, mycetoma, and rare fungal infections, such as infection due to Scedosporium species, for which a delayed diagnosis potentially worsens prognosis. Adjunctive surgery was proposed long ago, but because it highly threatens a patient’s vital prognosis, combined antifungal therapies, such as therapy with voriconazole and echinocandin for S. apiospermum infection, should now be discussed.

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