

the epigastrium. Blood tests revealed leukocytosis (WBC count,  $8.29 \times 10^9$  cells/L, with 78.2% polymorphonuclear leukocytes) and an elevated C-reactive protein level (6.47 mg/dL). The biliary enzyme levels were within the normal limits (alkaline phosphatase, 226 U/L;  $\gamma$ -glutamyl transpeptidase, 203 U/L). Urinary tract infection was the tentative diagnosis, and treatment with cephalosporin and gentamicin was started.

Abdominal ultrasonography revealed a lobulated, hypoechoic, cystic lesion in the lateral segment of the left hepatic lobe. The abdominal CT showed a 5-cm heterogeneous, septated, nodular lesion with marginal enhancement, a finding compatible with pyogenic liver abscess. However, a linear radiopaque density within the lesion was also noted (figure 1 *top, arrow*). The antibiotic therapy was changed to cefotiam and metronidazole. The fever became low-grade, and the antibiotic therapy was changed to ampicillin-sulbactam because of a decreased hemoglobin level, platelet count, and WBC count, which were probably adverse effects of cephalosporin therapy.

The patient became afebrile after 7 days of intravenous antibiotic therapy. Culture of a specimen from percutaneous transhepatic abscess aspiration revealed *Klebsiella pneumoniae* and aerobic, gram-positive bacilli. In accordance with the findings of the drug susceptibility test, the course of antibiotics was changed to amoxicillin-clavulanate. After 15 days of hospitalization, the patient was discharged in a stable condition. During the following 2 years, no associated symptoms or signs recurred. A CT scan performed at a follow-up visit at 2 years showed that the foreign body remained in the left liver but there was no adjacent inflammation (figure 1, *bottom*).

At least 10 cases of hepatic abscess due to an ingested fish bone have been reported [1–5]. Treatments included drainage of the abscess, removal of the foreign body, and administration of appropriate antibiotics. All reported cases were treated

with either percutaneous transhepatic removal or surgical removal of the fish bone. If there is a strong suspicion of bowel perforation by a foreign body or if a foreign body is detected preoperatively, surgery is considered the treatment of choice in current clinical practice [6, 7]. To the best of our knowledge, this is the first documented case of a hepatic abscess secondary to fish bone penetration that was successfully treated without removal of the foreign body. We thus recommend that medical approaches could be attempted first in such cases, especially when contraindications for surgery exist.

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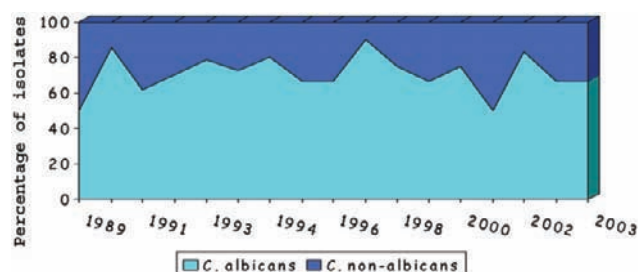
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## Fluconazole Prophylaxis for Critically Ill Patients at High Risk for *Candida* Infection

SIR—I have read with interest the article by Wenzel and Gennings [1] recently published in a supplement of the journal. In this article, the authors comment on the strategy followed at the Johns Hopkins University Hospital for patients in critical care units who are at particularly high risk for *Candida* infection, which is to give prophylactic anti-*Candida* antibiotics to all patients expected to be in an intensive care unit for  $\geq 3$  days. This strategy has been shown to reduce the overall rate of candidal infections in a study that examined all anatomic sites, but it did not reduce mortality in a surgical intensive care unit at Johns Hopkins University Hospital [2]. However, only 1 patient receiving fluconazole developed a candidal bloodstream infection, and 2 patients receiving placebo developed infection of the blood and the peritoneum [1].



**Figure 1.** Distribution of *Candida albicans* and non-*albicans* species of *Candida* (C. non-*albicans*) before and after the study.

In a study conducted in our institution that involved critically ill patients at high risk for development of candidal infections, patients were randomly assigned to receive fluconazole at a dosage of 100 mg daily ( $n = 103$ ) or placebo ( $n = 101$ ) [3]. Candidal infections occurred less frequently in the fluconazole group than in the placebo group (5.8% vs. 16% of patients; rate ratio, 0.35; 95% CI, 0.11–0.94). Approximately 90% of candidemia episodes occurred in the placebo group (rate ratio for fluconazole use, 0.10; 95% CI, 0.02–0.74). The crude mortality rate in both groups was similar. In conclusion, our results demonstrate that, for selected critically ill patients at high risk, fluconazole prophylaxis decreases the incidence of candidal infection, and of candidemia, in particular.

We did not observe changes in the patterns of distribution of infection due to *Candida albicans* and infection due to non-*albicans* species of *Candida* when we compared the species distribution before and after the study [4] (figure 1). Nevertheless, we would recommend close surveillance for the emergence of antifungal resistance.

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