**Systemic Candida Infections in Patients With Leukemia: An Overview of Drug Therapy**

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**Systemic fungal infections are becoming increasingly common in patients with hematologic malignancies receiving antineoplastic therapy.** The presence of acute myeloid or acute lymphoid leukemia, plus the use of chemotherapy to totally ablate malignant bone marrow cells, puts patients in a protracted neutropenic state. During this profound and prolonged neutropenic phase, patients receive antibiotic therapy for suspected or identified bacterial infections. However, when fever or other signs of infection continue despite antibiotic therapy, patients frequently need to be treated for suspected or identified systemic fungal infections. These infections may occur in patients receiving either standard antileukemia therapy or research protocol therapy involving new drugs, new drug combinations, higher doses, or newer schedules of established drugs. After antifungal therapy is initiated, it may be continued postdischarge in patients frequently need to be treated for suspected or identified systemic fungal infections. These infections produce significant morbidity and debility. Even when infections are not life-threatening, they often are associated with persistent, severe symptoms that diminish quality of life (Benedict & Colagreco, 1994; Garber, 2001).

**Predominant Cause**

Although several fungal species have been implicated in invasive fungal infections (including those in the Aspergillus, Fusarium, and Trichosporon genera), the *Candida* genus is the leading cause (Rex, Walsh, & Anaissie, 1998). *C. albicans* is the most common species implicated in invasive candidiasis (i.e., systemic *Candida* infection), but *C. krusei*, *C. parapsilosis*, *C. glabrata*, *C. lusitaniae*, and *C. tropicalis* have been isolated from bloodstream infections (i.e., septicemia) in hospitalized patients (Garber, 2001; Hoffman & Pfaller, 2001). Species of the *Candida* genus produce a broad range of infections from nonlife-threatening mucocutaneous candidiasis to invasive candidiasis that can affect any organ or combination of organs, acutely or chronically (Kontoyiannis, 2001).

*Candida* species are the fourth leading cause of nosocomial septicemia and are associated with rates of mortality as high as 38% (Rex et al., 2000). In addition to their impact on mortality, systemic fungal infections produce significant morbidity and debility. Even when infections are not life-threatening, they often are associated with persistent, severe symptoms that diminish quality of life (Benedict & Colagreco, 1994; Garber, 2001). Furthermore, bloodstream infections with *Candida* (i.e., candidemia) are associated with prolonged hospitalization and increased treatment costs (Klepser, 2001; Sobel, 2000).