

Epidemiology of Community-Onset versus Nosocomial Fungemia- A Comparative Study

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Background: Previous studies have shown that invasive candidiasis is more prevalent in ICU patients, however, our clinical observation indicates a possible shift from the ICU to other health care settings and that the incidence of community-onset fungemia is on the rise. Although *C. albicans* is the most common cause of fungemia, there has been increased isolation of non-albicans species of candida, which have been reported to be more resistant to fluconazole. This study aims to compare risk factors, resistance patterns, species distribution, and outcomes between community-onset and nosocomial fungemia

Methods: We performed a retrospective review of charts of all patients with at least one positive fungal blood culture between July 2010 and June 2014. Patients were categorized as community-onset fungemia defined as a positive fungal blood culture obtained within 48 hours of admission or nosocomial fungemia defined as a positive fungal blood culture obtained 48 hours or more after admission.

Results: A total of 124 patients with fungemia were included in the analysis. 36.3% (45) were defined as community-onset and 63.7% (79) were defined as nosocomial fungemia. Female patients were more likely to have community-onset fungemia compared with male patients ($p=0.02$). Community-onset fungemia cases were less likely to have exposure to the following risk factors: invasive procedure ($p<0.001$), intensive care unit stay ($p<0.001$), antimicrobial use ($p=0.02$), surgery ($p=0.003$), and total parenteral nutrition ($p=0.04$). Additionally, nosocomial fungemia was associated with older age ($p=0.02$) and a longer hospital stay ($p=0.02$). The mortality rate in patients with nosocomial fungemia (15%) was higher when compared with patients with community-onset fungemia (5%), however this difference was not statistically significant. There was no significant difference between the two groups in terms of antifungal resistance patterns and fungal species distribution

Conclusion: Patients with community-onset fungemia were less likely to have the traditional risk factors for fungemia, had better prognosis, shorter length of hospital stay and better mortality rates. Fungemia should therefore be considered in patients with community-onset sepsis even in the absence of traditional risk factors for fungemia.