



Species distribution of *Candida* clinical isolates from nosocomial bloodstream infections

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Introduction and Purpose: *Candida* species are important pathogens causing infections that are associated with high mortality, excess lengths of hospital stay, and medical costs. During recent decades the incidence of *Candida* species bloodstream infections has increased substantially due to more extensive use of invasive procedures and devices, broad-spectrum antimicrobial agents as well as exposure to antifungals for pre-emptive treatment of critical patients. The incidence of candidaemia varies between countries, patient populations and study periods. We aimed to retrospectively analyze the candidaemia cases among surgical patients, in a small teaching hospital in Greece covering a period of ten years.

Methods: The microbiological data of all hospitalized patients in the Surgery Department during 2002 to 2011 were reviewed, and all patients with *Candida* blood isolates were included for analysis. After incubation in a continuously monitoring blood culture system (BACTEC 9050, Becton Dickinson, USA), positive blood-cultures were inoculated onto appropriate plates for standard aerobic and anaerobic cultures and incubated at 37°C for 24h and 48h, respectively. A gram-stained smear was examined under microscope to obtain valuable information about the types of microorganisms present. The isolated pathogens were identified using the automated system VITEK 2 (BioMerieux, Marcy l'Etoile, France) which was also used to test the susceptibility of the isolates to different antimicrobial agents.

Results: A total of 130 episodes of candidaemia from 130 different patients out of 1333 positive blood cultures (9.7 %) were recorded during the study period. Seventy-eight patients were males (60 %) and 52 (40 %) were females. One isolate per patient during hospitalization was included in the study. There was no cluster of *Candida* colonization or infection documented during the study period. *Candida parapsilosis* was the most common pathogen identified in this study (35.4 %), followed by *C. glabrata* (28.5 %), *C. albicans* (27.7 %), *C. tropicalis* (6.9 %), and finally we isolated one strain of *C. colliculosa* and one *C. lipolytica* from our patients.

Conclusion: This hospital-based population study demonstrated the increasing incidence of non-*albicans* candidaemia episodes in the last decade. Among the non-*albicans* species, *C. parapsilosis* was the most commonly isolated from the *Candida* blood isolates.