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ePoster Viewing

Antifungal resistance & susceptibility testing

Candida bloodstream infections in a Greek tertiary hospital: 5-year survey – epidemiology and in vitro antifungal susceptibility profiles

Efstathia Perivolioti¹, Martha Nepka², Eleni Kraniotaki*², Maria Mpournia², Evangelia Douka³, Vassilis Papastamopoulos⁴, Athanassios Skoutelis⁴, Kimon Fountoulis²

¹*Evangelismos General Hospital, Athens, Greece*

²*Evangelismos General Hospital, Department of Clinical Microbiology, Athens, Greece*

³*Evangelismos General Hospital, Intensive Care Unit, Athens, Greece*

⁴*Evangelismos General Hospital, Fifth Department of Medicine and Infectious Diseases Unit, Athens, Greece*

Background: During the last decades the rates of invasive *Candida* infections have increased dramatically. As *Candida* infections are associated with significant morbidity and mortality, monitoring of *Candida* species distribution among significant isolates and their antifungal resistance is required. A retrospective study was conducted between January 2010 and November 2015 at Evangelismos General Hospital. The incidence of *Candida* species causing bloodstream infections and their susceptibility profile were evaluated. The purpose of this study was to define the rate of *Candida* isolates among all positive blood cultures, species distribution between *C. albicans* and *C. non-albicans*, and antifungal susceptibility test among them.

Material/methods: Records from the microbiology department were evaluated for the study period. All hospitalized patients who had ≥ 1 blood culture positive *Candida* were included in the study. Automated blood culture systems (BACTEC 9240, BD) were used. All isolates were speciated by the Vitek 2 system (Biomerieux, France). Susceptibility testing to amphotericin B, fluconazole, voriconazole, flucytocine, micafungin and caspofungin was performed by the Vitek 2 system and to anidulafungin by the E test (AB Biodisk, Sweden). Result interpretation was according to the CLSI guidelines (revised M27-S4).

Results: A total number of 7588 positive blood cultures were reviewed. Fungi were cultured from 521 positive blood cultures (6.9%). *Candida* species were found to be the fourth most common organism causing blood stream infections (BSIs). Overall, *Candida* accounted for 6.9% of all BSIs - being responsible for 7.8% of BSIs in the intensive care unit and 5.7% of infections in non-ICU patients. *C. albicans* represented the most common isolate in non-ICU wards. *C. parapsilosis* represented the 50% of isolates in ICU. All *Candida albicans* isolates were susceptible to azoles and candines. Available results are given in Table 1.

% susceptibility	MIC range	<i>C.albicans</i>	<i>C.parapsilos.</i>	<i>C.glabrata</i>	<i>C.tropicalis</i>
Amphotericin B	0.25-0.5	99%	98%	99%	99%

Fluconazole	1-32	97%	27%	MIC90=8µg/l	95%
Flucytocine	1-4	99%	99%	99%	99%
Voriconazole	0.25-1	99%	94%	99%	99%
Caspofungin	Average	0.125	1	0.125	0.125
Micafungin	Average	0.125	1	0.006	0.125
Anidulafungin	Average	0.125	2	0.125	0.125

Conclusions: Candidemia is a significant problem especially in medical wards. Early recognition and prompt empirical treatment are essential to improve outcomes of patients at risk for developing candidemia. Improvement of surveillance is crucial to recognizing emergence of highly resistant strains.