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ePoster Viewing

Fungal disease epidemiology & clinical trials

Serious fungal infections in Northwestern Greece, during a five year period

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Background: The incidence of severe fungal infections has increased worldwide and represents a serious threat, especially among immunocompromised and critically ill patients. The aim of this study was to assess candidaemia rates, species involved and sensitivity profile to antifungals as well as the incidence of other yeasts of clinical importance, during the last 5 years (2011-2015). The results regarding candidaemia, were also compared with these of a previous retrospective analysis (decade 2001-2010).

Material/methods: A retrospective study of *Candida* blood stream episodes, cryptococcal infections, invasive aspergillosis and *Pneumocystis jirovecii* pneumonia, collected from the microbiology database of the 750-bed University Hospital of Ioannina, over a 5-year period, was carried out. Isolation and identification of the etiological agents was achieved using the standard microbiological techniques, Bact/Alert automated system, Vitek 2 system and API32C (bioMerieux, France). Antifungal susceptibility of *Candida* strains was determined using Vitek 2 system complemented with E-test (bioMerieux). Detection of galactomannan antigen was performed using the Platelia Aspergillus enzyme immunoassay (Bio-Rad, Hercules, CA).

Results: Out of 1946 blood stream infections (BSIs), a total of 89 episodes of candidaemia were identified (4.6%) and 91 strains were recovered. The overall incidence rate was 0.30 episodes/1000 hospital admissions. Forty-seven per cent of patients were older than 65 years. BSIs due to *Candida* sp. were more prevalent among non-ICUs (62%) than ICU settings (38%). Twenty patients (23%) had solid organ tumor and 10 (11.2%) hematologic malignancy. *Candida albicans* was the commonest species (56%-51/91), followed by *C. parapsilosis* (20.9%-19/91), *C. glabrata* (9.9%-9/91) and other non-*albicans* species (13.2%-12/91). The overall mortality was 49.4% (44/89 episodes), caused mainly by *C. albicans* (61.4%-27/44 deaths). All isolates were susceptible to amphotericin B, except primary resistant *C. lusitanae* strains. Four strains (44%) *C. glabrata* were resistant to fluconazole as well as 2 *C. parapsilosis* (11%). Resistance to caspofungin and micafungin exhibited 47% and 10.5% of *C. parapsilosis* isolates, respectively. The incidence of candidaemia and the distribution of species were approximately the same, in comparison with the previous study. There weren't remarkable changes regarding resistance. During the study period, 15 different cases of invasive pulmonary aspergillosis were also estimated concerning mainly patients with solid organ tumors (67%) and resulting in 2 deaths (12.5%). Only one episode of cryptococcal BSI and meningitis was recorded with fatal outcome and none with *P. jirovecii* pneumonia.

Conclusions: *C. albicans* is still the most frequent species causing candidaemia. Amphotericin B retains a 100% sensitivity rate for *Candida* isolates. The incidence of other severe fungal infections remains low probably due to widespread use of antifungals for prophylaxis. Continuous surveillance is mandatory to ensure an early appropriate targeted treatment which is crucial for the successful approach to severe fungal infections.