eP356
ePoster Viewing
Evolving therapeutic strategies for fungal infections

CANDIDA TROPICALIS BLOODSTREAM INFECTION: INCIDENCE, RISK FACTORS AND DETERMINANTS OF MORTALITY IN A POPULATION-BASED SURVEILLANCE IN SPAIN

M. Fern·ndez-Ruiz[1], J.M. Aguado[1], B. Padilla[2], M. Puig-Asensio[3], M. Almela[4], A. DÌaz-MartÌn[5], J. RodrÌguez-BaÒo[6], M. Cuenca-Estrella[7]

[1]Unit of Infectious Diseases, Hospital Universitario "12 de Octubre", Madrid, Spain ; [2]Department of Clinical Microbiology and Infectious Diseases, Hospital General Universitario "Gregorio Marañón", Madrid, Spain ; [3]Department of Infectious Diseases, Hospital Universitari Vall d'Hebron, Barcelona, Spain ; [4]Department of Microbiology, Hospital Clinic-IDIBAPS, Barcelona, Spain ; [5]Department of Intensive Care Medicine, Hospital Universitario "Virgen del Rocío", Sevilla, Spain ; [6]Department of Infectious Diseases, Hospital Universitario "Virgen Macarena", Sevilla, Spain ; [7]Department of Mycology, Spanish National Center for Microbiology-Instituto de Salud Carlos III, on behalf of the CANDIPOP Project, Spain

Objective: Candida tropicalis possesses a diversity of virulence factors that confer higher potential for dissemination and pathogenicity in comparison to other *Candida* species. However, the epidemiological and clinical features of *C. tropicalis* bloodstream infection (BSI) remain poorly defined.

Methods: A prospective, multicentre, population-based surveillance program on *Candida* BSI (CANDIPOP Project) was conducted from May 2010 to April 2011 in 29 hospitals from 5 areas in Spain. Strains were centrally identified by DNA sequencing. *In vitro* antifungal susceptibility testing was done according to EUCAST methodology. We compare the clinical characteristics and outcome in episodes due to *C. tropicalis* and those due to other species. Episodes of mixed fungemia were excluded. Predictors for early (0-7 days) and late mortality (0-30 days) were also assessed.

Results: Out of 752 episodes of *Candida* BSI during the study period, 57 (7.6%) were due to *C. tropicalis* (annual incidence: 0.60 cases/10^5 population). Most of the episodes were considered primary (57.9%) and catheter-associated (28.1%). Non-susceptibility rates to fluconazole (MIC ≥4 mcg/mL) and anidulafungin (MIC ≥0.06 mcg/mL) were 22% and 5.1%, respectively. The frequency of isolation of fluconazole-resistant strains considerably varied between the 5 city areas, ranging from 31.2% (Seville) to 0.0% (Bilbao). Breakthrough BSI occurred in 14.0% of episodes. As compare to other species, patients with *C. tropicalis* BSI were older (63.0 vs. 53.9 years; *P*-value = 0.006) and more likely to have haematological malignancies (19.3% vs. 6.6%; *P*-value = 0.002), mucositis (10.7% vs. 5.0%; *P*-value = 0.049) and chronic pulmonary diseases (21.1% vs. 10.9%; *P*-value = 0.021), whereas the presence of total parenteral nutrition was lower (35.1% vs. 49.6%; *P*-value = 0.035). There were no differences in the previous exposure to fluconazole within the preceding month (13.5% vs. 8.8%; *P*-value = 0.309) or in its median duration (8.5 vs. 9 days: *P*-value = 0.767). Early and late mortality rates were 17.9% (10/56) and 34.0% (18/53), respectively, with no significant differences compared to episodes of BSI caused by other *Candida* species. In the univariate analysis severe sepsis or septic shock (odds ratio [OR]: 5.33; 95% confidence interval [CI]: 1.20-23.69) and the administration of inadequate initial antifungal therapy (OR: 5.57: 95% CI: 1.27-24.42) were predictors of early mortality. In addition, renal failure (OR: 6.00; 95% CI: 1.77-20.30) and prior immunosuppressive therapy (OR: 4.00; 95% CI: 1.08-14.71) predicted late mortality.

Conclusions: In this nation-wide study *Candida tropicalis* BSI was associated with advanced age, haematological malignancy and respiratory comorbidity. The notable rate of resistance to fluconazole should be considered when deciding empirical antifungal therapy in patients with these predisposing factors.