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ePoster Viewing
Antifungal drug susceptibility and resistance

Species distribution and antifungal susceptibilities of bloodstream Candida sp. from the Asia-Pacific region

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Objectives

Candida bloodstream infections account for significant morbidity and mortality. Accurate data on species distribution and antifungal susceptibilities is critical to support appropriate clinical decision making, and the formulation of treatment guidelines. This study set out to examine the species distribution and susceptibilities of *Candida* bloodstream infections from nine participating centres across the Asia-Pacific (AP) region.

Methods

Participating centres comprised hospitals from Brunei, Korea, Philippines, Singapore, Taiwan, Thailand and Vietnam. Each centre was requested to send a maximum of 50 *Candida* species isolated from bloodstream infections in 2012-2013 to a central laboratory. *Candida* species received for testing were subcultured on chromogenic Candida media to ensure isolate purity, and to confirm the submitted species identification. Discordant species were further identified by phenotypic identification (ID-YST, Vitek, BioMérieux) and morphology on cornmeal agar. Antifungal susceptibility testing was performed using Sensititre YeastOne Y10 plates. Minimum inhibitory concentrations were read following 24 hours incubation, and antifungal susceptibilities were interpreted using CLSI breakpoints (M27-S4, 2012) as susceptible (S), susceptible dose-dependent (S-DD) and resistant (R).

Results

272 study isolates were received, with categorical susceptibilities available for 268 isolates. *Candida albicans* comprised the majority of isolates (n=95, 34.9%) followed by *C. tropicalis* (n=78, 28.7%) and *C. parapsilosis* (n=53, 19.5%). 6.7% of all *Candida* spp. were resistant to fluconazole, with another 4.5% tested as S-DD. Corresponding resistance rates for caspofungin,

anidulafungin and micafungin were 1.1%, 0.7% and 0.7% respectively. When considering species-specific results, fluconazole susceptibility was high for *C. albicans* (R=1.1%), but lower for *C. tropicalis* (S-DD 9%, R 12.8%) and *C. parapsilosis* (S-DD 5.7%, R 3.8%). For *C. glabrata*, only 5.4% of isolates were resistant to fluconazole. No resistance to echinocandins was detected for *C. albicans* or *C. parapsilosis*. Two isolates of *C. glabrata* were tested as resistant to caspofungin (MIC 0.5 and 1) and one isolate of *C. tropicalis* was tested as resistant to anidulafungin (MIC 1).

Conclusion

Candida albicans now consists of less than 40% of all reported isolates from bloodstream infections from the AP region. *C. albicans* remains susceptible to fluconazole, but 9.8% of the non-*albicans* group were resistant to fluconazole, with a further 6.9% falling into the S-DD category. Based on these results, suspected systemic candida infections in this region should be treated using more aggressive fluconazole dosing regimens, with an echinocandin recommended for treatment of candidaemia in critically-ill patients and those with *Candida* spp. in blood cultures.