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Abstract (oral session)

Results from the China Hospital Invasive Fungal Surveillance Net 2009-2010: an analysis of susceptibilities of yeast species to fluconazole and voriconazole as determined by CLSI standardised disc diffusion

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Objectives: We reported the results of China Hospital Invasive Fungal Surveillance Net (CHIF-NET) 2009 to 2010, aiming to illustrate the species distribution and antifungal susceptibilities of yeast isolates collected.

Methods: CHIF-NET is the first nationwide invasive fungal infection surveillance study in China that covered 12 tertiary hospitals in nine provinces. It is important to note that, only yeasts that isolated from blood or other sterile body sites were collected. All isolates were identified by amplification and sequencing of the internal transcribed (ITS) region. Antifungal susceptibility testing to fluconazole (FLC) and voriconazole (VOC) were performed using disk diffusion method according to CLSI document M44-A. **Results:** Overall, a total of 814 yeast isolates were collected, which were assigned to 27 species. *Candida* species accounted for ~90% of all, followed by *Cryptococcus* species (8%) and *Trichosporon* species (1%). Within *Candida* genus, *C. albicans* was the predominant (34%), followed by *C. parapsilosis* (18%), *C. tropicalis* (15%), *C. glabrata* (11%), *C. metapsilosis* (3%), *C. krusei* (2%), *C. guilliermondii* (2%) and other *Candida* spp. (2%). The first three predominant specimen types were blood samples, (43%), drainage fluids (14%) and cerebrospinal fluids (CSF, 8%). In all, 26% of yeasts isolated from blood were assigned to *C. parapsilosis*, which was previously reported to be closely-related with catheter-related candidemia. For yeasts isolated from CSF, *Cryptococcus* species were the commonest (58%). Results of antifungal susceptibility testing to FLC and VOC revealed that both *C. albicans* and *C. parapsilosis* were highly susceptible (non-susceptible rates < 2%). Although a higher rate of *C. tropicalis* isolates (5.7%, seven isolates) were resistant to FLC or VOC, six resistant isolates were found from the same hospital; thus, potential of an outbreak in this hospital should be considered. In comparison, *C. glabrata* showed much lower susceptibility to FLC and VOC (susceptible rates 60% and 80%, respectively), and some less-common yeast species e.g. *C. quercitrusa*, *Pichia anomala* and *Yarrowia lipolytica* also shown high resistance to azoles and more likely to be related to blood-stream infections. **Conclusion** Results of CHIF-NET 2009-2010 provides distinct evidence of the sustained activity of fluconazole and voriconazole against a broad range of yeast species, and species identification by molecular methods made the results more creditable.