Background: Community-onset (CO) candida bloodstream infection (CBI) defined as a positive blood culture taken at or within two days of hospital admission, has substantial morbidity and mortality. However, limited data exists on the species distribution and antifungal resistance (R) profiles for isolates from CO- vs nosocomial (NOS)-CBI.

Methods: We compared antifungal-R profiles and species distribution of Candida isolates from patients with CO and NOS CBI in 79 hospitals from the SENTRY Program (2008-2009). MICs were obtained for anidulafungin (ANF), caspofungin (CSF), micafungin (MCF), fluconazole (FLC), voriconazole, anidulafungin (ANF), caspofungin (CSF), micafungin (MCF), fluconazole (FLC), voriconazole, anidulafungin, caspofungin, micafungin fluconazole and voriconazole were read following 24-h incubation, whereas MIC results for posaconazole and voriconazole were read after 48-h incubation. In all instances the MIC values were determined visually as the lowest concentration of drug that caused a significant diminution (≥50% inhibition) of growth below the control level. The fungal objective of the 2010 SENTRY Antimicrobial Surveillance Program (2008-2009) was to evaluate geographic variation in CO candidemia, and to identify resistance patterns for the contemporary echinocandin and azole classes.

RESULTS

• The 1,354 Candida BSI isolates included: 655 (48.4%) C. albicans, 247 (18.2%) C. parapsilosis, 232 (17.1%) C. tropicalis, 27 (2.0%) C. krusei, and 50 (3.7%) miscellaneous species. Among the episodes of candidemia, 494 (36.5%) were CO and 860 (63.5%) were nosocomial (Table 1). The frequency of CO candidemia was considerably higher in North America (50.8%) compared to that observed in Europe (22.4%) and Latin America (20.8%).
• Variation in the frequency of CO candidemia was considerable (Table 1). Interestingly, the proportion of CO candidemia in locations such as Asia-Pacific (48.4%) and Europe (22.4%) were considerably higher in North America (50.8%) compared to that observed in Europe (22.4%) and Latin America (20.8%).
• Our observations support the potential emergence of MDR phenotypes among nosocomial isolates of C. glabrata with cross resistance in azole and echinocandin classes.

CONCLUSIONS

• CO candidemias were not rare and appear to be increasing worldwide due to changes in healthcare practices. Whereas the species distribution and antifungal resistance in between community-onset and nosocomial CBI, resistance to the azoles and echinocandins was quite uncommon.

ACKNOWLEDGEMENT

The fungal objective of the 2010 SENTRY Antimicrobial Surveillance Program received financial support from Pfizer, Inc. (New York, NY) and Astellas Pharma US, Inc. (Deerfield, IL).

SELECTED REFERENCES