Review of species distribution and susceptibility of invasive isolates of *Candida* spp as evaluated using the previous and recently revised clinical breakpoints and method dependent epidemiological cutt of values

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Abstract

Invasive *Candida* infections often cause high morbidity and mortality especially in the critically ill or immunosuppressive patients. Although *Candida albicans* was the most frequently isolated species as the causative agent of *Candida* infections, geographical differences and changes over time in the species distribution and the susceptibility to antifungals were reported in several surveillance programs. Some variations have been shown to occur among institutions, localities, or countries. It is significant to determine the species distribution and antifungal resistance in large medical centers.

We reviewed the species distribution and antifungal susceptibility data of 1371 invasive *Candida* strains isolated in a large university hospital mycology laboratory over 16 years. Susceptibility tests against amphotericin B and azoles were routinely performed using Clinical and Laboratory Standards Institute guidelines from 1998 to 2012 and using Etest from 2012 to 2014. The Sensititre YeastOne colorimetric method was used to test *Candida* echinocandin susceptibility between 2012 and 2014. All test results were routinely reported to clinicians. In this retrospective analysis, resistance or non-wild type phenotypes to systemic antifungals were determined by the previous and recently revised CLSI breakpoints (BPs) and by method dependent species-specific epidemiological cutoff values respectively. The new epidemiological BPs provided by CLSI changed the percentage of resistant *C. albicans, C. parapsilosis* and particularly *C. tropicalis* isolates to fluconazole.