

**P1619**

**Paper Poster Session**

**Update in fungal resistance and susceptibility**

**Evaluation of the Sensititre YeastOne colorimetric antifungal panel for susceptibility testing of *Candida* species to anidulafungin, caspofungin, and micafungin, adopting the new CLSI clinical breakpoints and epidemiological cutoff values**

Nilgun Karabicak<sup>1</sup>, Onur Karatuna<sup>\*2</sup>, Isin Akyar<sup>3</sup>

<sup>1</sup>Public Health Institution of Turkey, Ankara, Turkey

<sup>2</sup>Acibadem University, Medical Microbiology, Istanbul, Turkey

<sup>3</sup>Acibadem University School of Medicine, Dept. of Microbiology, Acibadem Labmed Medical Laboratories, Istanbul, Turkey

**Background:** The purpose of this study was to evaluate the performance of the Sensititre YeastOne (SYO) panel to determine the in vitro activity of echinocandins against *Candida* species isolated from clinical specimens using the recently revised CLSI clinical breakpoints (CBPs) and epidemiological cutoff values (ECVs) criteria, as appropriate.

**Material/methods:** A total of 205 clinical *Candida* isolates were included. The Clinical and Laboratory Standards Institute (CLSI) reference broth microdilution method (BMD) was performed the isolates against anidulafungin and caspofungin at the Mycology Reference Laboratory, Public Health Institution of Turkey. Reference CLSI BMD MIC end points and the SYO (Thermo Fisher Scientific, Waltham, MA, USA) end points were read after 24 h of incubation and interpreted according to CLSI M27-S4, as susceptible (S), intermediate (I), resistant (R) and ECVs criteria, as appropriate.

**Results:** The invasive *Candida* isolates (n=205) revealed 176 isolates from 5 common (*Candida albicans*, n=81; *Candida parapsilosis*, n=35; *Candida glabrata*, n=25; *Candida tropicalis*, n=23, *Candida krusei*, n=12;) and 29 isolates from five rare (*Candida kefyr*, n=16; *Candida lusitanae*, n=7, *Candida lipolytica*, n=3; *Candida guilliermondii*, n=2; *Candida zeylanoides*, n=1). Among the common species anidulafungin resistance was observed only two isolates (*C. albicans*, n=1 and *C. krusei*, n=1) with both tests. However using CLSI BMD, 32% *C. glabrata* isolates were anidulafungin S/ caspofungin I-R, similar discrepancies were observed for 11% and 22% *C. parapsilosis* and *C. tropicalis* isolates, respectively. If only SYO data were considered for caspofungin, these discrepancies weren't observed. Due to the lack of species specific CBPs for the less common species (n=29), evaluation for this group was done according to the ECVs; the nine *C. keyfr* (9/16) were found caspofungin non-WT / anidulafungin WT with CLSI BMD, however using SYO all *C. keyfr* isolates were WT.

**Conclusions:** YeastOne assay employed in laboratory may reduce the MIC variability in caspofungin against *Candida* species that are observed using CLSI BMD methods. The new CLSI CBPs can be safely adopted for 5 common *Candida* species. The isolates were classified as echinocandin resistant using the SYO panel and the new CLSI CBPs. These *fks* mutant strains of *Candida* must be further characterised.

