P982

Abstract (poster session)

**Comparative evaluation of Sensititre YeastOne and CLSI M38-A2 reference method for echinocandin susceptibility testing of Aspergillus spp.**

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Objectives: Aspergilli less susceptible to antifungals are increasingly reported highlighting the importance of antifungal susceptibility testing in clinical laboratory routine. Easy-to-perform, accurate and reproducible commercially available methods, providing real-time and clinical useful information, are needed. The aim of our study was to assess the utility of Sensititre YeastOne assay for susceptibility testing of echinocandins against the Aspergillus spp. Methods: A total of 43 clinical isolates of Aspergillus spp. (11 A. flavus, 17 A. fumigatus and 15 A. terreus) including quality control reference strains and 2 isolates/species with reduced susceptibility to echinocandins (minimal effective concentration MEC>2 mg/L) were studied. Susceptibility testing against caspofungin, micafungin, anidulafungin (0.015-8 mg/L) was performed with the broth microdilution CLSI M38-A2 and the colorimetric method YeastOne according to the guidelines and manufacturer's instructions, respectively. The effect of different inoculum size (10^3-10^5 CFU/mL) and time of reading (20h, 24h, 26h, 28h, 30h, 36h, 40h, 44h and 48h) on YeastOne (YO) endpoints determined visually as the lowest concentration corresponding to the first blue or purple (P) well was assayed and compared with CLSI MEC determined microscopically as the lowest drug concentration causing abnormal hyphal growth. The agreement within 1 twofold dilution and the twofold differences between MEC and YO endpoints were calculated. Results: The median (range) MEC of caspofungin, micafungin and anidulafungin was 0.5 (0.5-1) mg/l, 0.12 (0.03-0.12) mg/l and 0.03 (0.015-0.06) mg/l for all isolates. The best performance of the YeastOne method was found with YO-P and 10^4 CFU/mL after incubation for 20h for A. flavus, 26h for A. terreus and 30h for A. fumigatus for all echinocandins. Agreement between the two methods was 67-100% for anidulafungin, 0-33% for micafungin and 0% for caspofungin due to 1 (-2 2)-fold, 3 (0-4)-fold and 5 (3-7)-fold lower colorimetric MECs, respectively. Reduced susceptibility to echinocandins was detected for the 2 A. fumigatus (for all echinocandins) and 1 A. flavus (for micafungin) isolates with YO-P >8 mg/l. Conclusion: With the exception of anidulafungin, CLSI M38-A2 MEC values were not reproduced by the Sensititre YeastOne method. However, correct categorization as susceptible was not excluded. Further method optimization is required as well as the examination of resistant strains.