

DRUG SUSCEPTIBILITY PATTERN OF CANDIDA SPECIES ISOLATED FROM SKIN OF NEONATES TO FLUCONAZOLE, AMPHOTERICIN B AND CASPOFUNGIN

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Background: *Candida* species are opportunistic yeasts that are capable of causing different infections and diseases among immunocompromised patients. Since *Candida* infections are major causes for frequent occurrence of septicemia in Neonatal Intensive Care Units (NICU), so obtaining adequate treatment seems to be necessary. The aim of this study was to evaluate the drug susceptibility of *Candida* species colonized on the skin and mucous membrane of neonates to fluconazole, amphotericin B and caspofungin.

Methods: This study was carried out in the laboratory of medical mycology and serology, School of Public Health, Tehran University of Medical Sciences for the period of 7 months from June 2016 to December 2016. In this descriptive cross sectional study, 23 isolates of *Candida* species including *Candida parapsilosis*, *Candida albicans*, *Candida tropicalis*, *Candida guilliermondii* and *Candida krusei* were studied. These isolates under study were previously isolated from skin and mucous membranes of neonates in NICU of Imam Khomeini Hospital and Children's Medical Center were identified by PCR-RFLP (Polymerase chain reaction-restriction fragment length polymorphism). Evaluation of antifungal drug susceptibility including fluconazole, amphotericin B and caspofungin was carried out. Antifungal susceptibility test was done according to the standard protocol of Clinical and Laboratory Standards Institute (CLSI M27-A3) that is specific to the yeast fungi. Statistical analysis was done by using t-test in SPSS version 22 (IBM, Armonk, NY, USA) and $P < 0.05$ was considered statistically significant.

Results: In this study, *C. parapsilosis*, *C. albicans* and *C. tropicalis* had the most sensitivity to fluconazole. Clinical isolates of *C. guilliermondii* were also sensitive to fluconazole, but in *C. krusei*, sensitivity was dose-dependent. All isolated species were sensitive to amphotericin B and caspofungin.

Conclusion: According to the results, all isolated *Candida* species were more sensitive to amphotericin B and caspofungin than other antifungal drugs. Finally, it is emphasized that antifungal susceptibility testing is necessary to prevent treatment failure or recurrence of disease

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