

***Candida albicans* blood isolates: a four year fluconazole susceptibility evaluation in a University Teaching Hospital in Brazil (2006-2010)**

PERON, I.H.¹; REICHERT-LIMA, F.¹; BUSSO-LOPES, A.F.²; LYRA, L.¹; MORETTI, M.L.²; SCHREIBER, A.Z.¹

¹ Clinical Pathology Department - Faculty of Medical Sciences. State University of Campinas - UNICAMP. Campinas/SP, Brazil.

² Internal Medicine Department - Faculty of Medical Sciences. State University of Campinas - UNICAMP. Campinas/SP, Brazil.

ABSTRACT. *Candida* species are reportedly the fourth most frequently isolated organisms in nosocomial bloodstream infections in Brazil. Despite advances in preventive, diagnostic and therapeutic actions, invasive fungal infections are a significant health problem in immunocompromised patients. The systemic candidiasis presents as localized infectious symptoms and can spread to other organs through haematogenic route. Fluconazole is the therapeutic antifungal choice for the treatment of candidiasis, and antifungal susceptibility testing is crucial for the management of invasive infections. This study was conducted in Hospital and Clinics of the State University of Campinas, a tertiary-care university hospital. From 2006 to 2010, a retrospective report was conducted to study the frequency of *Candida* species in different clinical sample, including blood. During this period, 313 episodes of candidemia were registered and *C.albicans* was responsible for 148 (47%) of occurrences. Hematology unit consumed 40% of the total amount of fluconazole in the hospital; however, it was prescribed mainly for prophylaxis. **OBJECTIVES.** The aim of this report was to perform a fluconazole susceptibility surveillance study involving the 148 *C.albicans* bloodstream samples. **METHODS.** The isolates were identified to the specie by conventional methods and Vitek[®] 2 Systems (bioMérieux). The *in vitro* antifungal susceptibility of the isolates to fluconazole was performed by broth microdilution methodology recommended by the Clinical and Laboratory Standards Institute documents (M27-A3 and M27-S4, CLSI). Plates containing serial dilutions of fluconazole (Dry Plate[®], Eiken Co. Japan) were inoculated using a prepared suspension of the yeasts. **RESULTS.** Minimal Inhibitory Concentration (MIC) results were interpreted according to *Candida albicans* clinical breakpoints as established by CLSI documents: the MIC endpoint for fluconazole was considered the lowest tested drug concentration causing a significant reduction (approximately 50%) in growth compared to the drugfree positive control. In our study, we obtained all isolates fitting on susceptible range ($\leq 0,015 - 0,125\mu\text{g/mL}$). MIC₉₀ and MIC₅₀ values for all the isolates was 0,25 $\mu\text{g/mL}$. **CONCLUSION.** This study disclosed several important points of potent *in vitro* performances, revealing that fluconazole prophylaxis was not able to modify the *in vitro* susceptible profile of *C.albicans* isolates.

Keywords: *Candida albicans*; candidemia; fluconazole; susceptibility testing.

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