MOLECULAR DIFFERENTIATION AND ANTIFUNGAL SUSCEPTIBILITY OF CLINICAL ISOLATES OF *Candida parapsilosis* COMPLEX AT A UNIVERSITY HOSPITAL OF CAMPO GRANDE, MATO GROSSO DO SUL – BRAZIL.

Mattos, K.[1]; Marques, L. I. [1]; Barros, P. F.D. [1]; Tsujisaki, R. A. S[1]; Almeida, A. A. [1], Dantas, F.G.S. [2], Spalanzani, R. N. [1] ;Chang, M. R. [1].

[1]UFMS – Universidade Federal do Mato Grosso do Sul (Cidade Universitária, Campo Grande - MS, CEP 79090-900), [2] UFGD – Universidade Federal da Grande Dourados (Rodovia Dourados-Itahum, km 12, Dourados, MS).

Abstract

Introduction: Nosocomial infections caused by *Candida parapsilosis* complex have increased over the years, especially in combination with invasive devices. This complex consists of three species: *C. parapsilosis stricto sensu*, *C. orthopsilosis* and *C. Metapsilosis*. This differentiation performed by comparing molecular techniques such as RAPD and RFLP. According to published studies, these yeasts can vary the resistance to antifungal drugs. This fact should be considered of great clinical relevance because it may influence therapeutic decisions. **Materials and methods:** The study included *yeasts* isolated from March/2013 to March/2014. The identification of microorganisms was performed by the Vitek 2 System. The SADH fragment was amplified in all isolates. To differentiate the complex *C. parapsilosis*, RFLP technique was performed. The amplicons obtained from the SADH fragment were digested with restriction enzyme BanI. The Minimum Inhibitory Concentration (MIC) was determined by the Clinical and Laboratory Standards Institute broth microdilution method (M27-A3 document), with the antifungal fluconazole, itraconazole, voriconazole and amphotericin B. **Results and Discussion:** Surveys report that among the species non-*C. albicans*, *C. parapsilosis* and *C. tropicalis* are the most common in Latin America. In our study were isolated 19 *Candida parapsilosis complex*. These yeasts were isolated mainly of patients admitted to the ICU (6; 31.58%) and Emergency Care (5; 26.36%), and of urine (7; 36.84%) and blood (6; 31.58%) samples. By analyzing the profiles generated by RFLP, they were found 18 *C. parapsilosis stricto sensu* (94.74%), one *C. parapsilosis orthopsilosis* (5.26%) and no specimens *C. parapsilosis metapsilosis*. These data are in accordance with previous studies, which have reported the prevalence of *C. orthopsilosis* from clinical samples. The MIC of antifungal ranged from 0.125 to 32 µg/mL for fluconazole, 0.015 to 0.5 µg/mL for itraconazole, 0.015 to 1 µg/mL for voriconazole, and of 0.25 to 1 µg/mL for amphotericin B. Only one sample was considered sensitive dose dependent (MIC of 32 µg/mL) to fluconazole. These results are consistent with previous research showing that although there are strains resistant to antifungal drugs, especially fluconazole, most isolates are still susceptible to this antifungal. **Conclusion:** In the institution studied *C. parapsilosis stricto sensu* is an important infection agent in the urinary tract, especially in critically ill patients.

Keywords: *Candida parapsilosis* complex, molecular differentiation, antifungal susceptibility

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