

TITLE: CORRELATION BETWEEN ANTIFUNGAL SENSITIVITY PROFILE AND EXPRESSION OF VIRULENCE FACTORS IN ISOLATES OF URINARY TRACT INFECTION

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ABSTRACT: The isolation of fungal in urinary tract infections in recent years has increased, especially in the intensive care unit (ICU). Furthermore, the presence of strains resistant to antifungal agents has also been reported in several epidemiological sites. Therefore, the understanding of the pathogenicity expressed by these microorganisms becomes fundamental in order to propose new therapeutic strategies. Thus, the aim of this study was to compare the expression of virulence factors with resistant strains of *Candida* sp isolated from patients with urinary infection. We studied 80 strains that were tested for *in vitro* susceptibility to fluconazole, voriconazole, amphotericin B and caposfungin using broth microdilution described in the protocol EUCAST E. Def 7.3.1. The virulence factors were carried out through the *in vitro* detect of the hydrolytic enzymes phospholipase and proteinase, in egg yolk agar and albumin agar respectively. The distribution of species was as follows: *C. albicans* 61,25% (n=49), *C. glabrata* 25% (n=20), *C. tropicalis* 12,5% (n=10) and 1,25% *C. krusei* (n=1). About 89,8% of *C. albicans* were susceptible to all tested drugs, except 2 isolates that were resistant to fluconazole and voriconazole, 1 isolate resistant to fluconazole as well as amphotericin B and 2 isolates that were resistant just to voriconazole but showed lower susceptibility to fluconazole. About 20% of *C. tropicalis* showed resistance to fluconazole and voriconazole. Resistant were not observed for *C. glabrata* to all tested drug. However, 80% (n=16) showed lower susceptibility to fluconazole (MIC \geq 4). Checking all the strains (*albicans* and non-*albicans*) the MIC range to caposfungin was of 0,015-8 μ g/mL. Regard to the production of extracellular enzymes, 83,75% of all isolates showed strongly activity for proteinase (*C. albicans* 56,25% in comparison to non-*albicans* 27,5%) and 18,75% strongly activity for phospholipase activity (*C. albicans* 15% in comparison with non-*albicans* 3,75%). Analyzing resistant strains 83,33% presented strongly activity for proteinase and 16,66% present strongly activity for phospholipase activity. To conclude, our results suggest that the enzymatic activity of the proteinase perhaps associated to resistance antifungal or decrease of antifungal sensitivity profile especially for the drug fluconazole, followed by voriconazole. More studies are necessary for the understanding of the mechanisms that lead to this association.

Keywords: phospholipase, proteinase, candiduria, resistance

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