Title: Epidemiological study of candidemia at the Hospital Universitário Prof. Edgard Santos, Salvador –BA

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Abstract:

Yeasts from gender *Candida* are responsible for the majority of fungal infections in humans. It causes diseases of different severity, ranging from invasive mucocutaneous infections to invasive disease that can affect any organ . In recent years, the emergence of new species causing infections and increased resistance to antifungal drugs requires knowledge of the pathogen for suitable treatment. The objective of this study was to evaluate the prevalence of candidemia at the Hospital Universitário Prof. Edgard Santos, and determine the antifungal susceptibility of the isolated species. Therefore, the study was conducted in two stages: between 2011 a 2013 with records analyzes and in 2014, through prospective and analytical study. The yeasts identification was performed by phenotypic and molecular PCR- RFLP tests. The antifungal susceptibility profile was determined by disk diffusion and E-test techniques. The molecular technique PCR -RFLP with the restriction enzymes *Msp*I and *Bfa*I and was able to identify two of the four species not identified by phenotypic methods. To evaluate the antifungal susceptibility testing, two techniques were used: disk diffusion and E-Test® The prevalence of *Candida* causing candidemia was 4.2 % and 98 strains were isolated. The median age was 56 years and 57.4 % were women. In the distribution of species, *C. albicans* (27.6 %) was the most frequent species, followed by *C. tropicalis* (24.5%). The identification of 29 strains from 2014 showed concordance between phenotypic and molecular methods. The susceptibility profile determined by E-test demonstrated that 93.1 % of the strains were susceptible to amphotericin B, 89,7% to caspofungin, 75.9 % to fluconazole, 62,1% to ketoconazole, and 55.2 % to itraconazole. For disk diffusion technique, itraconazole was the antifungal that showed lower sensitivity with 58.6 %, followed by fluconazole with 65.4 % and both, amphotericin and ketoconazole, with 96.6 %. Amphotericin B was the drug that showed better agreement (96,6%) between the techniques. Our data reinforce the importance of identifying *Candida* species and to know the antifungal sensitivity profile, so the diagnosis and treatment can be established earlier as possible. In this way, opportunistic infections can be prevented.

Keywords: candidemia, phenotypical identification, PCR-RFLP, disk diffusion, E-test®.