

Title: SPECIES PREVALENCE AND BIOFILM FORMATION OF CLINICAL ISOLATES OF *Candida* spp. OBTAINED FROM PATIENTS WITH CANDIDEMIA IN TERTIARY HOSPITALS IN NATAL CITY, BRAZIL

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Summary:

The occurrence of candidemia in tertiary care hospitals has significantly increased in recent decades, accounting for about 80% of nosocomial fungal infections. Some factors, such as intravenous catheters and parenteral nutrition, contribute to the establishment of these infections. The epidemiology of candidemia has been changing over the past two decades, with an increase in the number of infections caused by non-*Candida albicans* *Candida* species (NCAC). This study aims to evaluate the distribution of species and the ability of biofilm formation of clinical isolates of *Candida* spp. obtained from blood cultures of patients with candidemia. We analyzed 23 isolates of *Candida* spp. obtained from blood cultures of hospitalized patients seen at the University Hospital Onofre Lopes and Hospital Dr. Luiz Antônio, between August 2011 and May 2013. Yeasts were identified by CHROMagar *Candida*®, microculture in cornmeal agar added tween 80 and classical methods (assimilation and fermentation of carbohydrates) and were phenotypically characterized for their ability to form biofilm on polyethylene microplates. *C. albicans* was the most prevalent species (n = 11, 47.8%), followed by *Candida tropicalis* (n = 5, 21.7%) and the *Candida parapsilosis* species complex (n = 4, 17.4%). We obtained a single isolate each of *Candida krusei*, *Candida glabrata* and *Candida lusitanae* (4.35%). The average of biofilm formation readings was 0.36 ± 0.47 . It was observed that *C. tropicalis* strains showed a greater ability to form biofilm (0.80 ± 0.27), followed by the *C. parapsilosis* species complex and *C. albicans*. NCAC strains showed a significantly greater ability to form biofilm compared to *C. albicans*. Our data suggest that, despite the increase in the frequency of isolation of NCAC, *C. albicans* is still the most prevalent species. Nevertheless, NCAC species showed its pathogenic potential through high capacity of biofilm formation.

Keywords: Candidemia, Biofilm, *Candida albicans*, non-*Candida albicans* *Candida* species

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