

Title: ANTIFUNGAL SUSCEPTIBILITY OF *Candida tropicalis* ISOLATES FROM COASTAL ENVIRONMENT IN NORTHEASTERN BRAZIL

Authors: Zuza-Alves, D.L.¹, Silva-Rocha, W.P.¹, Araújo, M.C.B.¹, Neves, R.P.², Lima-Neto, R.G.², Chaves, G.M.¹

Institutions:¹UFRN – Universidade Federal do Rio Grande do Norte (Rua General Gustavo Cordeiro de Farias, 384 - Petrópolis, Natal - RN, 59012-570), ²UFPE – Universidade Federal de Pernambuco (Avenida Professor Moraes Rego, 1235 - Cidade Universitária, Recife - PE, 50670-901)

Summary:

Candida tropicalis is involved with diseases ranging from superficial to systemic infections. The high incidence of infections caused by this yeast has drawn attention, especially considering the apparent increase in resistance to antifungal agents. Resistance in clinical isolates of *C. tropicalis* to azoles has been much reported, however, there are few studies on the resistance of this species to other antifungal drugs, such as amphotericin B. Despite the large number of investigations with regard to microbiological aspects of coastal environments and the growing interest of the society toward environmental issues, there are no current studies investigating susceptibility to antifungal drugs of *C. tropicalis* strains isolated from beaches. Therefore, the present study aimed to characterize isolates of *C. tropicalis* obtained from the sand of Ponta Negra Beach, Natal, Rio Grande do Norte state, Brazil. Thus, the objective of this study was to test the *C. tropicalis* strains isolated from the beach as for sensitivity to antifungal agents Fluconazole, Voriconazole, Itraconazole, Amphotericin B, Micafungin, Caspofungin and Anidulafungin. Antifungal susceptibility tests were performed by the micro broth dilution method according to standardized standard published in Document M27-A3 by Clinical Laboratory Standards Institute (CLSI, 2008). We observed high resistance to the azoles tested (fluconazole, voriconazole and itraconazole), with the occurrence of the "low-high" phenomenon in 5 (8%) of the isolated and a paradoxical effect similar to growth occurring in the echinocandins in 20 isolates (32.2%). Fifteen strains were resistant to the three azoles tested (24.2%). Some strains were also resistant to amphotericin B (14 isolates, 22.6 %), while all of them were susceptible for the echinocandins tested. Only a single isolate was SDD to micafungin. Thus, our results show that isolates of *C. tropicalis* obtained from northeastern sandy beaches in Brazil are significantly resistant to the most commonly used antifungal drugs in current clinical practice, which indicates great health risk to users in this coastal environment.

Keywords: *Candida tropicalis*, coastal environment, antifungal resistance

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