

TITLE: IDENTIFICATION OF CLINICAL ISOLATES OF *Candida* spp. BY PHENOTYPIC METHODS AND MOLECULAR BIOLOGY

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ABSTRACT

Vulvovaginal candidiasis is an endogenous infection of the vulva and vagina, caused by yeasts of the genus *Candida*, commonly by *Candida albicans*, but the literature describes an increase in cases with non-*albicans* isolates. *Candida* species are microorganisms commonly found in the microbiota of the urogenital and gastrointestinal tracts without causing disease, but when the balance between the fungus and the host is destabilized, changes in the vaginal microbiota or a decrease in the immune response, a proliferative increase in colonization, and the fungus will invade the tissues, initiating the infectious process. This study aims to carry out the laboratory identification of vulvovaginal candidiasis by phenotypic methods and by molecular biology. Samples of the vulvovaginal secretion were collected from women attending the ambulatory of the University of São Luís - MA, through a sterile swab and then stored in tubes containing 2 ml Brain Heart Infusion (BHI) medium for each patient. Thereafter, these samples were seeded on plates containing the Sabouraud Agar Dextrose medium and incubated in the oven for 48 hours at 37°. After their growth on the plate, the samples were cultured in selective CHROMagar medium for the presumptive identification of the isolates, through the colony acquired by the colonies, and then the samples were submitted to DNA extraction and polymerase chain reaction (PCR); for the sequencing of ITS regions. Among the 20 isolates used in the study, 14 were suggestive of *Candida* spp. with various colorations in purple, green, blue, lilac with white, pink and white borders, respectively representing *C. krusei*, *C. albicans*, *C. tropicalis*, *C. parapsilosis*, *C. glabrata* and *Candida* spp. Then, the samples were identified by sequencing the ITS region, confirming only *C. parapsilosis*, *C. albicans*, *C. glabrata* and *C. orthopsilosis*. Therefore, molecular biology represents the gold standard for the identification of fungal species when compared to phenotypic tests, despite the higher cost, it may provide a diagnosis and possibility of treatment more correct vulvovaginal candidiasis.

Keywords: Candidiasis. Molecular biology. Diagnosis.

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