CORRELATION BETWEEN PHOSPHOLIPASE ACTIVITY, PRESENCE OF GENES *PLB*1 / *PBL2* AND SUSCEPTIBILITY TO FLUCONAZOLE OF *Candida albicans*

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ABSTRACT

Phospholipase constitute one of the main factors related to the process of fungal virulence, especially in yeasts of the genus *Candida*. *C. albicans*, most frequently isolated species in infectious processes caused by yeast, has four types of known phospholipases (A, B, C and D). However, only the products of *PLB*1 and *PLB*2 genes will allow the detection in the extracellular level. Currently, the enhanced expression of these genes has been correlated with the most virulent isolates and low sensitivity to antifungal agents, especially to azole agents. Thus, aiming to determine the presence of *PLB*1 and *PLB*2 genes in yeasts of *C. albicans*, this study used Polymerase Chain Reaction (PCR) technique and the results were compared to the activity of phospholipase and susceptibility to fluconazole. Fourteen *C. albicans* strains isolated from 94 samples of vaginal swabs of women in labor admitted to the emergency of the Maternity Hospital Januário Cicco (Federal University of Rio Grande do Norte, Natal - RN) were subjected to DNA extraction and amplified *PLB*1 and *PLB*2 genes. Phospholipase activity was determined by inducing medium containing egg yolk and its fluconazole susceptibility was determined using broth microdilution. Investigated genes were amplified in all isolates; however, three of them (21.4%) showed no phospholipase activity, revealing an inactivation of *PLB*1 and *PLB*2 genes. It was possible to establish a sensitivity rate to fluconazole of 92.9% (13/14), with only one isolate with intermediate sensitivity, which showed a high level of phospholipase activity. Thus, there are indications of a possible correlation between virulence factors, such as the phospholipase and decreased sensitivity to antifungal agents. However, it is necessary further studies and a larger sample size.

Keywords: *Candida albicans*, phospholipase, fluconazole.

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