

Title: Virulence factors evaluation of *Candida* species isolated in hospital patients.

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Abstract:

Commensal and opportunistic agent, *Candida* is a serious public health problem. *Candida* spp. may corrupt the host organism through the production of virulence factors. This study aimed to verify the occurrence of *Candida* spp. in hospitalized patients and evaluate the production of virulence factors. It was performed a descriptive study of June / 2010 to March / 2012 in the University Hospital of the Federal University of Grande Dourados, has isolated 60 samples of *Candida*, being 28 *C. tropicalis*, 18 *C. albicans*, 11 *C. glabrata* and 3 *C. krusei*, from urine culture (29), general secretions (10) nasal swab (9), rectal swab (8), blood culture (2), catheter tip (1) and oropharyngeal swab (1). Growth at high temperatures was evaluated in agar Sabouraud Dextrose 39 ° C and 42 ° C for 72 hours. The test was done in duplicate, and was made an average of the values obtained; the result was considered positive when there was growth of yeast. To phospholipase was used egg yolk agar, incubated at 37 ° C for 48 hours and then the diameter was determined from the precipitation zone around the colony. To test the proteinase was used Bactor-Agar plus bovine serum albumin, yeast extract, and carbon based, incubated at 37 ° C for 48 hours. Hemolytic activity was evaluated in Sabouraud dextrose agar with sheep's blood supplemented with glucose at 37 ° C for 48 hours. Tests were performed in duplicate on three different occasions and the result was obtained from the average of the tests. The biofilm production was evaluated on polystyrene microplates Sabouraud Dextrose broth with 8% glucose. All analyzed *Candida* isolates grew at high temperatures. In relation to hemolytic activity, 95% of samples showed highly positive enzyme activity. For the phospholipase test, 93% showed strong positive results. For proteinase test, 66% of the samples were strongly positive. All *Candida* isolates analyzed showed biofilm production. With our work, we can infer that the occurrence of infections caused by *Candida* species is relevant in hospitalized patients, as they may present virulence factors that harm in their recovery.

KEYWORDS: Yeasts, hydrolytic enzymes, hemolytic activity, biofilm.

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