

TITLE: CANDIDEMIA: PREVALENCE AND SUSCEPTIBILITY PROFILE IN A TERTIARY CARE HOSPITAL IN SOUTHERN BRAZIL

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ABSTRACT:

Bloodstream infection by yeasts of the genus *Candida* spp. has an overall mortality around 40-60% and represents the most frequent invasive fungal disease in the hospital environment. This infection affects patients exposed to several risk conditions, such as: use of central venous catheter, invasive procedures, peritonitis after surgical manipulation in the abdominal cavity or secondary to dialysis, mechanical ventilation, exposition to treatments that include use of antibiotics, corticosteroids and other immunosuppressive agents. To describe the prevalence and fluconazole susceptibility profile of *Candida* spp. of blood cultures from patients at the Hospital de Clínicas Porto Alegre in the last 18 months, 126 samples were analyzed from January 2021 to June 2022, positive by the automated BACT/ALERT® system, in which the presence of yeast cells was confirmed using the Gram staining technique. Subsequently, the species were identified by the Vitek MS - MALDI TOF method. The antifungal fluconazole was microdiluted according to BrCAST (EUCAST) in order to determine the susceptibility profile. A total of 126 samples of *Candida* sp. were isolated, and identified as *C.albicans* (n=44;34.9%), *C.orthopsilosis* (n=25;19.8%), *C.tropicalis* (n=13;10.3%), *C.glabrata* (n=9;7.1%), *C.krusei* (n=5;4.0%), *C.lusitaniae* (n=3;2.8%), *C.dublinsiensis* (n=2;1.6%), *C.inconspicua* (n=2;1.6%); and *C.pararugosa*, *C.guilliermondii*, *C.parapsilosis*, *C.kefyr* (n=1;0.8%). Regarding the fluconazole susceptibility profile, of the 126 isolates, 106 (84.1%) are classified as sensitive according to BrCAST (EUCAST), 8 (6.4%) are classified as intermediate and 12 (9.5%) have intrinsic or acquired resistance. The isolates that showed resistance were *C.krusei* (n=5), *C.parapsilosis* (n=3), *C.glabrata*, *C.inconspicua*, *C.pararugosa*, *C.tropicalis* (n=1). Among the most prevalent species are *C.albicans* (34.9%) and the *Candida parapsilosis* complex (34.9%). The latter is closely related to the use of central venous catheters, due to tropism for plastics and biofilm formation. The identification and knowledge of the epidemiological distribution, in this perspective, are important tools for monitoring the local epidemiology and choosing the appropriate treatment.

Keywords: *Candida*; epidemiology; susceptibility; fluconazole.

Development Agency: Hospital de Clínicas Porto Alegre (HCPA).