TITLE: OCCURRENCE AND RESISTANCE PROFILES OF *Candida* sp. IN DOMESTIC AND WILD ANIMALS

AUTHORS: CÂNDIDO, S. L.[1]; NAKAZATO, L.[1]; MORGADO, T. O.[1]; LUDWING, A.[2]; SANTURIO, J. M.[2]; OLIVEIRA, L. A.[1]; DUTRA, V[1].

INSTITUTION: 1. Molecular Biology Laboratory, Federal University of Mato Grosso – UFMT. (Avenue Fernando Corrêa da Costa, 2367, CEP: 78060-900, Cuiabá – Mato Grosso – Brazil). **2.** Mycology Research Laboratory, Federal University of Santa Maria (UFSM) (Av. Roraima, 1000 - Camobi, Santa Maria - RS, CEP: 97105-900, Santa Maria, Rio Grande do Sul, Brazil).

ABSTRACT

Candida species are yeasts that elicit clinical symptoms, that is, candidiasis, in human and animals. Their diversity in animals in Brazil is still largely unexplored, which makes it difficult to understand the species in the region as well as the most appropriate treatment. In this study, the diversity of *Candida* species in domestic and wild animals in Brazil was investigated, and their antifungal susceptibility profiles were evaluated. The isolates were obtained from materials received and processed at the Veterinary Microbiology Laboratory (Cuiabá, Mato Grosso - Brazil) collected from domestic and wild animals in the year 2015. In total, 79 isolates from 13 different sampling sites were characterized by DNA sequencing of the Internal Transcribed Spacer (ITS) region in ABI3500 automated sequencer and the evaluation of antifungal susceptibility of the isolates was determined by the microdilution broth technique following the international protocols M27–A3 and M27–S3, specified by the Clinical and Laboratory Standards Institute. The susceptibility of 30 isolates (10 each of *C. glabrata*, *C. tropicalis*, and *C. parapsilosis* isolates) to caspofungin, fluconazole, voriconazole, amphotericin B, nystatin, and itraconazole was maked. *C. rugosa* was the most frequently isolated species (26% of all isolates, 21/79), followed by *C. parapsilosis* (20%, 16/79). All isolates tested were resistant to itraconazole the most commonly used antifungal agent in veterinary medicine, suggesting that continued treatment with this drug may become ineffective, but none was resistant to voriconazole. The results provide evidence for increased incidence of non-*albicans Candida* species in animals, with voriconazole being the most efficacious antifungal agent. *C. tropicalis* isolates were resistant to multiple antifungal agents. Multi-resistant drug has already been reported in the Brazilian Northeast and, therefore, should be monitored. This study emphasizes the importance of further research into the development of new works related to virulence factors and antifungal susceptibility *Candida* species in animals.

Keywords: Central-Western Region, Brazil, Fungal, ITS, MIC

Development Agency: Federal University of Mato Grosso – UFMT