**TITLE:** *CANDIDA PARAPSILOSIS* SPECIES COMPLEX SUSCEPTIBILITY TO ANTIFUNGAL AGENTS AND GERANIOL.

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**ABSTRACT:**

*Candida parapsilosis* species complex, composed by *C. parapsilosis sensu stricto, C. orthopsilosis* and *C. metapsilosis*, represents a recognized threat in the nosocomial environment by forming drug-recalcitrant biofilms on catheters and other medical devices. In Brazil, the *C. parapsilosis* species complex is responsible for 15-30% of systemic infections. The use of natural components with antifungal activity has been shown to be a promising therapeutic alternative in infections by *Candida* spp. Among these compounds, the monoterpenoid alcohol geraniol highlight. This study aimed to evaluate the susceptibility of the C. parapsilosis species complex strains to antifungal agents and geraniol. Therefore, 37 strains of human, veterinary and environmental sources were used from the fungal collection of Center for Medical Mycology (Fortaleza-Ceará, Brazil), being 21 (56.7%) *C. parapsilosis strictu sensu*, 9 (24.3%) *C. metapsilosis* and 7 (19%) *C. orthopsilosis*. The susceptibility assay was conducted by the broth microdilution method, according to the guidelines of document M-27 (CLSI, 2017). Microdilution was performed in 96-well U-bottom plates in RPMI 1640 medium and inoculum standardized at 0.5 of McFarland scale. Amphotericin B, itraconazole, voriconazole were used at 0,0313 – 16 µg/mL, fluconazole at 0.125 – 64 µg/mL, caspofungin at 0.015 – 8 µg/mL, as geraniol at 4 – 1024 µg/mL. The controls were *C. krusei* ATCC 6258 and *C. parapsilosis* ATCC 22019. The minimum inhibitory concentration capable of inhibiting 50% of fungal growth (MIC50) was determined from the visual reading after 24-48 hours for all drugs. The MIC50 concentration range observed for the drugs were: Amphotericin B (0.0313 – 0.5 µg/mL), itraconazole (0.0313 – 0.25 µg/mL), voriconazole (0.0313 – 0.25 µg/mL), fluconazole (0.125 – 4 µg/mL) and caspofungin (0.125 – 1 µg/mL). All strains evaluated were sensitive to geraniol (64 – 256 µg/mL), with the species *C. metapsilosis* being the most susceptibility, while *C. parapsilosis strictu sensu* presented the highest MIC50 values. Knowledge of the susceptibility to antifungal drugs and alternative compounds provides a better understanding about the different therapeutic possibilities.

**Keywords:** Natural components, antifungal activity, Candida.

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