

Título: EFFECT OF THE CRUDE EXTRACT OF *EUGENIA UNIFLORA* IN MORPHOGENESIS IN *CANDIDA ALBICANS* FROM THE ORAL CAVITY OF KIDNEY TRANSPLANT RECIPIENTS

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Resumo:

Candida albicans is a diploid yeast that in some circumstances may cause oral or oropharyngeal infections. Yeasts virulence factors contribute for both the maintenance of colonizing strains in addition to damage and cause tissue invasion. Morphogenesis is the ability of *C. albicans* to switch from budding to hyphae, increasing yeasts tissue invasion and thus establishes infection. The limited arsenal of antifungal drugs for the treatment of candidiasis turn the investigation of natural products mandatory for the discovery of new targets for antifungal drug development. Therefore, tropical countries emerge as important providers of natural products with potential antimicrobial activity. This study aimed to investigate morphogenesis of *C. albicans* in the presence of the crude extract of *Eugenia uniflora*. The 48 clinical isolates and two reference strains (*C. albicans* ATCC 90028 and *C. albicans* SC5314) were tested for their ability to form hyphae in both solid and liquid media under three different conditions: Yeast Peptone Dextrose + 20% Fetal Bovine Serum, Spider medium and N-acetyl-D-glucosamine in the absence and presence of 2000 µg/mL of *E. uniflora*. The crude extract of *E. uniflora* inhibited hypha formation in all liquid media tested. When *C. albicans* cells were inoculated in liquid Yeast Peptone Dextrose + 20% Fetal Bovine Serum, the mean of morphology index was reduced from 2.76 to 2.34 (absence and presence of crude extract). The same trend was also observed for Spider broth, with the mean morphology index reduced from 2.47 to 1.37. The morphology index was also reduced in the N-acetyl-D-glucosamine broth with the mean values decreasing from 2.82 to 1.98. The wrinkled aspect of filamentous colony in all the conditions was switched to smooth colonies when the crude extract was added to the solid media. This was the first study to describe the interaction of a natural product with morphogenesis of *C. albicans* in three different conditions. *E. uniflora* may be an alternative therapeutic for oral candidiasis in the future.

Keywords: *Candida albicans*; Oral candidiasis; Kidney transplant recipients; Morphogenesis;

Eugenia uniflora

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