

USE OF LEMONGRASS AS AN AUXILIARY TREATMENT FOR *CANDIDA*-ASSOCIATED DENTURE STOMATITIS: ANTIFUNGAL AND CYTOTOXIC ACTIVITY, AND EFFECTS ON ACRYLIC RESIN.

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Candida-associated denture stomatitis (CADS) is an infection commonly observed in denture wearers, being *C. albicans* the major etiological factor. Considering the current challenge in CADS control using conventional therapies, the search for alternative antifungal substances from natural products has become a trend in medical literature. Thus, the purpose of this study was to investigate the *in vitro* effects of lemongrass extract (LGE) as an auxiliary treatment for *Candida*-associated denture stomatitis. It was investigated the effects of LGE in *C. albicans* biofilms, viability of human cells, and in the color perception, surface roughness and flexural strength of acrylic resin. Minimal inhibitory concentration (MIC), minimal fungicidal concentration (MFC) and time-kill assays were performed for LGE against *C. albicans*. For biofilm analysis, disc discs were fabricated using a denture acrylic resin with surface roughness standardization. *C. albicans* biofilms were developed on saliva-coated discs and the effects of LGE at MIC, 5 X MIC or 10 X MIC were investigated during biofilm formation and after biofilm maturation. Biofilms were investigated for cell counting and metabolic activity and microscopic analysis. The cytotoxicity of different concentrations of LGE to human polymorph nuclear cells (PBMC) was analyzed by MTT assay. The effects of LGE in the acrylic resin were verified by changes measured in roughness, color and flexural strength after 28 days of immersion. Data were analyzed by ANOVA followed by Tukey test at 5% significance level. The minimal concentration of LGE required to inhibit *C. albicans* growth was 0,625 mg/mL, while MFC value was 2,5 mg/mL. The presence of LGE during biofilm development resulted in a reduction of cell counting ($p < 0.05$), considering the MIC sufficient to reduce approximately 90% of biofilm cells ($p < 0.0001$). Exposure of LGE after biofilm maturation also had a significant antifungal effect and metabolic activity at all concentrations tested ($p < 0.05$). When compared to PBS group, the exposure of PBMC to LGE at MIC resulted in similar viability ($p > 0.05$). No differences were verified in color alteration, roughness surface or flexural strength after immersion in LGE at MIC compared to control group ($p > 0.05$). It could be concluded that immersion of denture surface in LGE was effective in reducing *C. albicans* biofilms, with no deleterious effects on acrylic properties at MIC concentration.

Natural Products, Lemongrass, *Candida albicans*, Biofilms.