

TITLE: ANTI-*Candida tropicalis* ACTIVITY OF OZONIZED COCONUT AND OLIVE OIL

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ABSTRACT:

The opportunistic infections caused by *Candida* spp. constitute a problem public health and represent about 80% of fungal bloodstream infections in the world. Among that species, *Candida tropicalis* is emerging in the last decades and has shown resistance to conventional antifungals like fluconazole, besides that being a problem between immunocompromised patients, raising mortality rates among them. These facts show the need for the search for new antifungal agents, so that the impact generated by these infections in the human body can be lessened with greater efficiency. In this context, the ozonized oils constitutes a possible alternative for the treatment of this infections. The ozonized sunflower oil demonstrated in previous studies, a important fungicide action in treatment of onychomycosis. Thus, the objective of this work was to evaluate the action of the ozonized coconut and olive oil against *C. tropicalis*. The activity of the oils against *C. tropicalis* ATCC 750 (American Type Culture Collection) were analyzed using the broth microdilution method according to the *Clinical and Laboratory Standards Institute* (M27-A3) with some modifications. The ozonized coconut and olive oil was evaluate in 5 concentrations, ranging from 457.700 at 28.606 mg/mL and 439.2 at 27.45 mg/mL, respectively. The RPMI 1640 medium only with inoculum was used as control. After the incubation at 35°C for 24 and 48 hours, aliquots of the different concentrations tested were collected and diluted in Phosphate Buffered Saline (PBS). Posteriorly, the dilutions were plated in Sabouraud Dextrose Agar (SDA) for the determination of the Colony Forming Units (CFU's). The antifungal action of ozonized coconut oil against *C. tropicalis* was very promising, since in the 4 higher concentrations there was a 100% reduction of fungal growth, being statistically significant ($p < 0,05$) in relation to control. The ozonized olive oil, reduced 100% of fungal growth in 439.2 and 219.6 mg/mL. At the other concentrations the yeast growth increased gradually, characterizing a dose-dependent antifungal action. Thus, ozonated compounds are an important natural alternative for the treatment of *Candida tropicalis* infections, but in-depth studies are still needed, such as cytotoxicity assays, to help in understanding the action potential of oils.

Keywords: Antifungal action, *Candida tropicalis*, ozonized oils.

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