FP 23: In vitro study on tea tree oil and eucalyptus as alternative treatment for aspergillus spp.

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Background: Otomycosis is a fungal infection of the external ear seen in most patient with complaints of ear pruritus and persistent discharge. Common pathogens involved in otomycosis is Aspergillus. Essential oils are aromatic oily liquids obtained from plant materials and several studies have shown its effects against fungi species. Eucalyptus oil and tea tree oil has shown antifungal properties by inhibiting normal physiology of fungi and shows promise as a topical antifungal. The study is an experimental comparing the in vitro inhibition of eucalyptus oil and tea tree oil against the standard treatment for aspergillus infection, Clotrimazole.

Method: Fungal isolates in sabaraud dextrose agar were inoculated with eucalyptus oil, tea tree oil, clotrimazole and DMSO control using the agar disc diffusion method. Zones of inhibition for each group were measured and compared using one-way analysis of variance.

Results: Results show a significant difference in the zone of inhibition in the DMSO control and between eucalyptus oil, tea tree oil and clotrimazole. There was no noted significant difference between eucalyptus oil and clotrimazole, and tea tree oil and clotrimazole.

Conclusion: The results of the study show that eucalyptus oil, tea tree oil inhibit in vitro growth of aspergillus comparable to inhibition of clotrimazole. This study suggests the possible use of eucalyptus oil and tea tree oil as treatment for aspergillus infection such as in otomycosis. Further studies may be done to test said essential oils for use in patients with otomycosis, in terms of their safety and adverse reactions.