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Comparative evaluation of antifungal activity of *Melaleuca* oil and fluconazole when incorporated in tissue conditioner - An *in vitro* study

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Purpose: This study sought to compare in-vitro, the antifungal activity of *Melaleuca alternifolia* oil and fluconazole mixed with a tissue conditioner.

Methodology: By testing several concentrations of fluconazole and Melaleuca oil in visco-gel, minimum most effective concentration of each antifungal agent against *Candida albicans* was determined. The parameter used to measure the antifungal activity was mean inhibition diameter and data were analyzed statistically for significance of findings.

Result: The minimum most effective concentrations of *melaleuca* oil in viscogel and fluconazole were 30% w/w and 5% w/w respectively. 30% w/w *melaleuca* oil was found to be most effective ($P < 0.001$) and superior to 5% fluconazole in viscogel as it retained substantial anti-fungal activity (mean inhibition diameter) even on day 7 when Fluconazole had lost its anti-fungal effect completely as evidenced by re-growth of *Candida albicans* by day 7.

Conclusion: 30% *melaleuca* oil in tissue- conditioner viscogel is superior to 5% fluconazole in viscogel as anti-fungal agent. Though both showed comparable anti-fungal activity at 24 hours against *Candida albicans*, yet fluconazole had completely lost it by day 7 whereas *melaleuca* oil had retained its anti-fungal action substantially.

Biography

Veena Hegde is Professor in Prosthodontics and crown and bridge at Manipal College of Dental Sciences.

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