

Comparison of antifungal effect of ZOE, Metapex and Sealapex on *Candida Albicans*

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Abstract

Background & Aim: The antiseptic characteristic of root canal filling materials seems very critical in pulpectomy procedure to eliminate residual pathogens of root canals. The aim of this laboratory study was to compare the antifungal activity against *Candida albicans* of ZOE with calcium hydroxide root canal filling pastes (Sealapex and Metapex).

Methods: An experimental study was conducted and agar diffusion inhibitory test was used to assess antifungal activity. Thirty 10-cm-diameter dishes with four mm thickness of agar inoculated with *Candida albicans* were used and four five-mm-diameter wells per dish at equidistant points were filled with the three test root canal filling pastes (ZOE, Sealapex and Metapex) and distilled water as a negative control. After incubation of the plates at 37°C for 48 h, the diameter of the zones of fungal growth inhibition produced around the wells was measured (in mm) with a caliper. Kruskall-Wallis test was used to analyse the data. Level of significance was less than 0.05.

Results: Kruskall-Wallis test indicated that there were statistically significant differences ($p<0.001$) among median of the zones of fungal growth inhibition produced by the 3 different materials. Median diameter of inhibition zones of fungal growth was significantly higher in ZOE than both Metapex ($p<0.001$) and Sealapex ($p<0.001$).

Conclusion: Based on the results of this study, it appears that ZOE has more antifungal activity than Metapex and Sealapex.

Key words: Pulpectomy, *Candida Albicans*, Root canal filling materials