

Antimicrobial effect of different calcium hydroxide's preparation methods on root canal microorganisms : an invitro study

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Abstract

Background and Aim: Several studies have shown a higher success rate of root canal therapy when the canal is free from bacteria at the time of obturation. In vitro studies have indicated that calcium hydroxide is the most effective antimicrobial intracanal medicaments. The aim of this study was to assess the efficacy of some different calcium hydroxide preparation and a new method.

Materials and Methods: For conducting this experimental study, 62 root specimens were used. Segments of root with 5 height and almost 5 mm diameter prepared. The specimens were divided into five groups, according to intracanal medicament used as follows: Calcium hydroxide with Normal saline, Lidocaine 2%, Chlorhexidine %2, Chlorhexidine 0/2%, Iodine Potassium Iodide (IKI) 2%. The medicaments were placed into the canal in creamy consistency, then the specimens were taken in the agar culture plates which contains *Enterococcus faecalis*. The inhibition zone around each specimen was recorded after 24 hours and result submitted to ANOVA and Tukey's tests.

Result: All calcium hydroxide pastes had some degree of antibacterial activity after 24 hours, but combination of calcium hydroxide with chlorhexidine 2% had significantly more efficacy than the other combinations except lidocaine %2 ($P < 0.05$).

Conclusion: Under condition of this study, it can be concluded that addition of chlorhexidine 2% to Calcium hydroxide may improve its antibacterial activity.

Keywords: *Antimicrobial, Calcium hydroxide, Dentin*