

عنوان مقاله:

Comparison of the Antimicrobial Efficacy of Calcium Hydroxide and Photodynamic Therapy Against *Enterococcus faecalis* and *Candida albicans* in Teeth With Periapical Lesions; An In Vivo Study

محل انتشار:

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خلاصه مقاله:

Abstract Introduction: Elimination of pathological microflora of root canal systems is a major goal in endodontic treatment. This study aimed to compare the antimicrobial efficacy of calcium hydroxide as an intracanal medication and antibacterial photodynamic therapy (aPDT) against *Enterococcus faecalis* and *Candida albicans* in teeth with periapical (PA) lesions. **Methods:** This in vivo study was conducted on 20 patients with single-rooted mandibular premolar with previously failed endodontic treatment. This study was performed as a clinical trial (IRCTID: IRCT2016090429686N1). After conventional chemo-mechanical root canal preparation (hand and rotary instruments and 2.5% NaOCl), microbiological samples were obtained using sterile paper points, then stored in thioglycolate solution and transferred to a microbiology laboratory. Group 1 (n = 10) specimens underwent aPDT (diode laser 808 nm + 50 mg/mL methylene blue), while creamy calcium hydroxide paste was used in group 2 for a duration of 1 week. A control sample was taken with sterile paper points and F3 Protaper rotary file. The samples were dispersed in transport medium, serially diluted, and cultured on selective mediums to determine the number of colony forming units (CFUs). Data were analyzed by Mann-Whitney U test at 5% significance level. The significance level for all analyses was set at $P < 0.05$. **Results:** Number of CFU significantly decreased in both groups after the interventions ($P < 0.001$); however, there was no significant difference in the colony count between the 2 groups. **Conclusion:** aPDT and calcium hydroxide therapy showed the same antimicrobial efficacy on *E. faecalis* and *C. albicans*. **Keywords:** Antimicrobial efficacy Calcium hydroxide *Enterococcus faecalis* Photodynamic therapy Root canal treatment

کلمات کلیدی:

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