

TITLE: *IN VITRO* STUDY OF DIFFERENT SUBSTANCES RECOMMENDED AS INTRACANAL MEDICATION ON STRAINS OF *Enterococcus faecalis*

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ABSTRACT:

The intracanal medication involves the use of drugs inside the root canal, where they should remain active throughout the period between the consultations of the endodontic treatment. A drug can be applied within the root canal system for the following reasons: to promote the elimination of bacteria that have survived the chemical-mechanical preparation; to act as physical-chemical barrier against infection or reinfection by saliva bacteria; to act as a physical-chemical barrier; to reduce periradicular inflammation; neutralize toxic products; control persistent exudation; stimulate repair by mineralized tissue; control external inflammatory dental resorption; and solubilize organic matter. Currently, several drugs have been studied to be used as a delay dressing in the treatment of root canals with pulp necrosis, especially in radiographically visible periapical lesions, which result in long-term lesions, predominantly in this case of infection of the root canal, *Enterococcus faecalis*. The aim of this work was to perform the microbiological analysis of intracanal medications, such as: ciprofloxacin hydrochloride 5.0 µg/mL, Calen and Calen with Paramonochlorophenol (PMCC), on strains of *Enterococcus faecalis*. The microbial strain used was inoculated *Enterococcus faecalis* in a previously sterilized test tube containing BHI medium and incubated at 37°C for 48 hours. Dilution of medications was performed: ciprofloxacin hydrochloride 5.0 µg/mL, Calen and Calen with Paramonochlorophenol (PMCC). The bacterial suspension was adjusted according to the MacFarland scale and seeded in Petri dishes containing 20 ml of Muller-Hinton Agar (in triplicate). Afterwards, wells were prepared on the agar in each plate with the aid of a Pasteur pipette, 5 mm in diameter. Different measures of inhibition halos of *Enterococcus faecalis* were observed for ciprofloxacin, Calen and Calen plus paramonochlorophenol (PMCC). Through the methodology used to analyse antimicrobial activity of intracanal medications, ciprofloxacin hydrochloride 5.0 µg/mL showed a higher mean of inhibition halos against *E. faecalis*.

Keywords: Calen with Paramonochlorophenol, ciprofloxacin hydrochloride, intracanal bacteria, microbiological analysis, root canal.

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