

ABSTRACT

**THE EFFECT OF CALCIUM COMBINATION
HYDROXIDE WITH GREEN TEA AND CALCIUM HYDROXIDE
WITH CHOCOLATE FRUIT SKIN ON THE NUMBER OF
ODONTOBLAST LIKE-CELL AND COLLAGEN TYPE I**

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Background: *One endodontic treatment that aims to maintain the health and vitality of pulp tissue is pulp capping. Factors that play a role in this treatment are cytotoxic, biological factors from pulp capping material and the ability to control infections. Green tea and cocoa have similarities to have antioxidant properties, where free radicals can appear and affect the inflammatory process. There have been many studies conducted on the antibacterial power of cocoa peel extract and green tea extract but about the combination of Calcium Hydroxide cocoa peel extract and green tea extract has never been done. Many benefits of green tea and cocoa peel are the basis for integrating natural treatments with by combining calcium hydroxide with green tea or with brown fruit skin as pulp capping material. Objective: To determine the effect of the combination of calcium hydroxide with green tea and calcium hydroxide with brown skin on the number of Odontoblast Like-Cell and Type I Collagen expression. Method: Rats were randomly divided into five groups. Exposure to the pulp is performed on the occlusal surface of the right maxillary first molar. In each group given the application material directly applied to pulp exposure. After that, all cavities are filled with GIC. Animals were sacrificed on days 7 and 28. Histological and immunocytochemical examination criteria for the number of odontoblasts and type I collagen expression. Results: The highest average number of odontoblasts and type I collagen expression in the application of a combination of calcium hydroxide with cocoa skin extracts were 14.4 and 14 While the combination of calcium hydroxide with green tea extract is 13.2 and 13.0. Conclusion: The*

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amount of odontoblast like cell and expression of type I collagen in the application of the combination of calcium hydroxide with cocoa skin extract was higher than the combination of calcium hydroxide with green tea extract.

Keywords: *Combination of Calcium Hydroxide with Green Tea, Calcium Hydroxide with Chocolate Pod Husk, Odontoblast Like-Cell, Type I Collagen*