

## ABSTRACT

### ***EXPRESSION OF NF- $\kappa$ S AND TYPE I COLLAGEN DUE TO APPLICATION OF COMBINATION CALCIUM HYDROXIDE AND PROPOLIS***

**Background:** The initial reparative dentine formation begin with the synthesis of dentine extracellular matrix such as type I collagen which is believed to be the key to the success of pulp capping treatment. Propolis is an alternative pulp capping material which is known to reduce inflammation in exposed pulp. Calcium hydroxide was the gold standar material for pulp capping but it has some limitation in calcium hydroxide. As a result of these limitation, this study was conducted to determine the expression of NF- $\kappa$ S and collagen type I due to the application of combination calcium hydroxide and propolis extract. **Purpose:** To determine the expression of NF- $\kappa$ S and type I collagen due to the application of combination calcium hydroxide and propolis. **Methods:** Thirty wistar first maxillary molar were mechanically perforated. Teeth were divided into 3 groups of 10 each. Group I as control (cention), group II treated with calcium hydroxide, group III treated with calcium hydroxide and propolis. Final restoration was done with cention. The teeth were extracted on 7<sup>th</sup> and 14<sup>th</sup> days and processed for immunohistochemistry evaluation. **Result:** Difference in expression NF- $\kappa$ S and type I collagen after treatment of calcium hydroxide compared with combination calcium hydroxide and propolis were statistically analyze using one way Anova test were found to be significant ( $p < 0,05$ ) for expression NF- $\kappa$ S and Type I collagen. **Conclusion:** The expression NF- $\kappa$ S after aplication combination of calcium hydroxide and propolis were decreased. The expression type I collagen after aplication combination of calcium hydroxide and propolis were increased..

**Keyword:** Combination propolis and calcium hydroxide, collagen type I, NF- $\kappa$ S, odontoblast like cell.