THE EFFECT OF pH COMBINATION OF CALCIUM HYDROXIDE- PROPOLIS – PROPYLENE GLYCOL ON THE ELASTICITY MODULE OF DENTIN

Background: *Calcium hydroxide is a pulp capping material that is often used in dentistry but has many lacks. Propolis is a resin compound derived from honey bee wax (Apis mellifera), derived from saliva and several enzymes, which bees use to build their hives. Propylene glycol (PG) is a clear, colorless, odorless liquid with a slight characteristic resembling glycerin and is often used as a vehicle in endodontic fields.* ***Objective :*** *To determine the effect of pH on elastic modulus of dentin which exposed to calcium hydroxide, calcium hydroxide + propolis, and calcium hydroxide + propolis + propylene glycol.* ***Materials and Methods****: Samples were divided into 2 groups, the pH group and the elastic modulus of dentin group. The pH group was divided into 3 groups, with each consisting of 9 samples; group 1: calcium hydroxide + aquadest, group 2: calcium hydroxide + propolis, group 3: calcium hydroxide + propolis + propylene glycol. The modulus elasticity group is divided into 4 groups: group 1: calcium hydroxide + aquades, group 2: calcium hydroxide + propolis, group 3: calcium hydroxide + propolis + propylene glycol, group 4: dentin. After 7 days, the pH sample was measured with a pH meter, and the elastic modulus sample was measured by a universal testing machine. The measurement results are normality test, homogeneity test and statistical test with one way ANOVA, comparative test with Tukey HSD and correlation test with Pearson.* ***Results:*** *One way ANOVA analysis data showed significant differences between groups ($p < 0.05$) and the correlation test showed a relationship between pH and elastic modulus of dentin.* ***Conclusions****: There is a correlation between the pH value with the elastic modulus of dentin where the higher the pH value (alkaline environment), the higher of the elastic modulus of dentin is exposed (the more rigid)*

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Keywords *: Calcium hydroxide, propolis, propylene glycol, pH, modulus elastisitas dentin*