Influence of Administration Propolis Extracts on Osteoblasts Expression around Alveolar Bone during Experimental Tooth Movement in *Cavia Cobaya*

ABSTRACT

Background: Research has confirmed that natural substance, such as Propolis, contains flavanoid which is widely known its appearance increasing a number of osteoblast. Which can support and enhance the alveolar bone remodeling process. **Purpose:** This study was conducted to investigate the influence of administration Propolis extracts on osteoblast expression around alveolar bone during experimental tooth movement in Cavia cobaya. **Material and methods**: Cavia cobaya with an average weight 200-300grams were selected and randomly divided into two groups-only orthodontic tooth movement (K) and orthodontic tooth movement plus propolis (PGO-1) groups. PGO-1 received 3mg propolis extracts disolved to 2ml of aquades daily dose. After the 14 day separators were applied, the K and PGO-1, were eutanatized and their pre-maxillae were dissected and fixed. Histological examination was performed to determine the number of osteoblasts. A number of osteoblasts were counted under a light microscope with 1000 magnifications. Data was analyzed by Kolmogorov-Smirnov test and Independent-t-test. **Results:** Statistical analysis showed that number of osteoblasts were greater in the PGO-1 group than in the K group. The results of Kolmogorov-Smirnov test showed both groups have normal distribution, control groups and experimental groups respectively, 0,70 and 0,86 ($p>0,05$) and Indepent-t-test showed both groups has significant difference. Conclusion : The result suggests that administration of Propolis extract lead to increase in the number of osteoblast around alveolar bone in *Cavia Cobaya* during tooth movement.

KEY WORDS : Bone remodeling; Orthodontic tooth movement; Osteoblasts; Antioxidants; Propolis extracts