OSTEOPROTEGERIN EXPRESSION OF ALVEOLAR BONE DEFECT IN LOW PLASMA ESTROGEN

ABSTRACT

Background: Estrogen is a hormone produced in the pituitary gland and is mainly responsible for the development of the female reproductive organs. Estrogen deficiency which causes damage to the alveolar bone characterized by increased osteoclast activity. Osteoprotegerin (OPG) is a cytokine that can inhibit the production of osteoclasts. OPG is produced from osteoblasts stromal cells triggered by the hormone estrogen. **Objectives:** This study aimed to determine the circumstances of the decline osteoprotegerin expression in osteoblasts during an alveolar bone defect with low plasma estrogen conditions. **Material and Methods:** The study was post test control group design. Samples are Wistar rats (Rattus Albinus) females with a total sample of 32 rats, whereas devide by 2 group which 16 treatment group and 16 control group. Analysis of the difference in value osteoprotegerin ovariectomized rats given action (treatment) and mice that were not given the action ovariectomy (control) by Mann Whitney test. **Results:** The results show the value of the treatment group was 2.13 ± 0.806 and the value of the control group was 11.94 ± 2.048. The average value of the treatment group is lower than the value of the control group. Based on the obtained Mann Whitney test p-value of 0.000 with a confidence level of 95%. **Conclusion:** There was less expression of osteoprotegerin on alveolar bone defect when the condition estrogen in low plasma.

Keywords: Osteoprotegerin, estrogen, osteoblast.