

ABSTRACT***EXPRESSION OF VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) ON RAT PERIODONTITIS MODEL (RATTUS NOVERGICUS) USING RAT BONE MARROW STEM CELL THERAPY***

Background. Periodontitis is an inflammatory disease of the supporting tissues of the teeth caused by specific microorganisms or groups microorganism, resulting in progressive destruction of gingiva, periodontal ligament and alveolar bone. Vascular Endothelial Growth Factor (VEGF) is an important signaling cytokine that plays a role in the mechanism of inflammation by stimulating the growth of new blood vessels. **Purpose.** To find out that therapy of Rat Bone Marrow Stem Cell affects the expression of VEGF on rat periodontitis model. **Method.** This study using a model of periodontitis in the rat, conducted by the research phases as follows : Preparation of rat periodontitis model, Preparation of Rat Bone Marrow Stem Cell culture taken from the bone marrow of rat, The intravenous injection of Rat Bone Marrow Stem Cell into the rat's tail. **Results.** Rat Bone Marrow Stem Cell therapy decreased the expression of VEGF. It could be seen from the Mann-Whitney analysis that there was no significant difference, **Conclusion.** Rat Bone Marrow Stem Cell therapy affects the expression of VEGF by decreasing its amount.

Keywords: Rat Bone Marrow Stem Cell, VEGF, periodontitis