ABSTRACT

THE MECHANISM OF TOOTH EXTRACTION WOUND HEALING AFTER GIVING *Anredera cordifolia* (Ten.) Steenis LEAF ETANOL EXTRACT THROUGH EXPRESSI ON of HIF-1α, VEGF-A and BMP-2

Introduction: The main problem of Indonesian people oral health is the high number of tooth decay. Tooth extraction is an act that is often experienced by patients who have tooth decay and the wounds caused alveolar bone reso rption. *Anredera cordifolia* (Ten) Steenis plants often used by Indonesian people to accelerate wound healing.

Purpose: The purpose of this study was to analyze the mechanism of tooth extraction wound healing after giving *Anredera cordifolia* (Ten.) Steenis leaf etanol extracts on the Wistar rats alveolar socket at intervals of 3, 7, and 14 days.

Material and Methods: This study used 90 male Wistar rats which are divided in 5 groups. The extraction is done on left lower jaw incisive tooth. The research material in each treatment group are *Anredera cordifolia* (Ten.) Steenis gel extracts dose of 10%, 20% and 40%. Animal's mandible were decaputated at intervals of 3, 7, and 14 days after extraction. The antibody staining on preparations for the examination of HIF-1α, VEGF-A and BMP-2 expressions, as well as hematoxylin-eosin staining (HE) for fibroblasts, osteoblasts, and osteoclasts examination

Result: There is a significant difference in HIF-lα, VEGF-A and BMP-2 expressions in 10%, 20% and 40% treatment group on two control groups with $p < 0.05$. On examination with HE staining, showed fibroblasts and osteoclasts increased by day 3, and decreased at intervals of 7 and 14 days, while the osteoblasts increased at intervals of 3, 7, and 14 days.

Conclusion: Tooth extraction wound healing after giving *Anredera cordifolia* (Ten.) Steenis leaf etanol extract through the mechanism of HIF -1α, VEGF-A and BMP-2 expression as the modulator to accelerate of osteogenesis and minimize alveolar bone resorption at intervals of 3, 7, and 14 days.

Keyword : *Anredera cordifolia* (Ten.) Steenis, HIF-1α, VEGF-A and BMP-2