

THE EFFECT OF BINAHONG LEAF EXTRACT OINTMENT (*Anredera cordifolia* (Ten) Steenis) TO THE DENSITY OF COLLAGEN ON BURN WOUND IN RATS (*Rattus norvegicus*)

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ABSTRACT

Burn wound is a condition when the continuity tissue are damaged by the trauma of chemicals, electricity, or radiation. The process of wound healing can be accelerated by using traditional medicines, one of them is a plant called Binahong. This aim of this study was to determine the effect of binahong leaf extract ointment (BLEO) to collagen density on burn wound of rat. 24 rats were randomly divided into six groups: P0 (control –), P1 (burn wound with no treatment), P2 (control + : burn wound with Silver Sulfadiazine), P3 (burn wound with BLEO 2,5%), P4 (burn wound with BLEO 5%), and P5 (burn wound with BLEO 10%). Treatment had been given directly on the burn area topically for fourteen days. The result of nonparametric test *Kruskal-Wallis* is 0.001 show that significantly different ($p < 0.05$), and continues to *Mann-Whitney U* test. The collagen density of burn wound on group P0 and P4 are not significantly different ($p > 0.05$) but significantly different with group P1, P2, P3, and P5 ($p < 0.05$). Group P3 not significantly different with group P2 and P5 ($p < 0.05$), but both of them significantly different ($p > 0.05$). The compounds of BLEO is flavonoid, saponin, tannin and ascorbat acid. Flavonoid have the ability as an antioxidant that can reduce free radicals. Saponin can stimulated the migration of keratinocytes which are important for re-epithelialization process and can stimulate fibroblast for collagen synthesis to the wound area. Tannin serves as an astringent which can cause skin pores shrink, and to stop the exudates to cover the wound area. Ascorbat acid is important for activate prolil hydroxylase enzyme that support hydroxylation step for collagen formation. Research shows that increasing mean of collagen density is on BLEO treatment at group P4 which indicates that is the optimum dose. Giving BLEO 5% increase collagen density into score 3.

Key words: binahong leaf, wound healing, fibroblast, collagen