

THE POTENTIAL OF GEDI MERAH (*Abelmoschus manihot* (L.) MEDIK) LEAF EXTRACT GEL ON THE QUALITY OF COLLAGEN IN WOUND BURN HEALING PROCESS ON RATS (*Rattus norvegicus*)

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ABSTRACT

The aim of this study was to determine the potential of Gedi Merah (*Abelmoschus manihot* (L.) MEDIK) leaf extract gel on the quality of collagen for deep second degree skin burn wound in rat. Twenty male rats (*Rattus norvegicus*), 3 months of age, 150-200 gram body weight were used. this research consisted of five treatments (P0, P1, P2, P3 and P4). P0 were normal skin, P1 were used 1% silver sulfadiazine, P2, P3, and P4 that are GEDGM with increase concentration i.e. 6,25%, 12,5%, and 25%. Treatments had been given topically for 14 days, twice a day, started at the time after burn wound application. At the end of the treatment period, skin excisions were conducted, and histopathological examination was carried out. Microscopic observation on the wound healing process on the collagen density and arrangement showed that P0 was not significant difference with P3 ($p>0.05$), but P0 was significant difference with P1 and P2 ($p<0.05$). The better burn healing process on P3 allegedly because of the activity of flavonoid, saponin, and tannin, contained in the Gedi Merah, which have the antioxidant, anti-inflammatory, and antibacterial effects. The conclusion of this study was the dosage of 12,5% Gedi Merah (*Abelmoschus manihot* (L.) MEDIK) leaf extract gel (GEDGM) has been proven to be effective to be used for topical burn therapy.

Keywords: *Abelmoschus manihot* (L.) MEDIK, collagen, skin burn, wound healing