

Wound Healing Activity of Aucubin on Hyperglycemic Rat

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Abstract:

Objective: Impaired wound healing in diabetic patients is a serious complication that can lead to amputation and even death. Proper diabetic wound management is needed to improve the quality of life of diabetic patients. *Plantago major* (plantain) has been used empirically for wound healing. One of its chemical compounds, aucubin, has been studied on non hyperglycemic wound. This study was conducted to determine the wound healing activity of aucubin on hyperglycemic rats, as a model for diabetic wound. **Methods:** A total of 24 hyperglycemic male rats (Wistar) were divided into 4 groups (G1-G4), and subsequently treated with gel of aucubin 0.04% and 0.08%, gel base, and bioplacenton®, respectively. Drugs were applied topically on animals' wounds created on the dorsal part (length of 2 cm, a depth of 5 mm), once a day during 21 days. Wound healing activity was evaluated based on the percentage of wound closure and wound healing time. **Results:** The results showed that the gel of aucubin at the concentration of 0.04% and 0.08% were able to increase the percentage of wound closure (100%) compare to the negative control (83%). Moreover, gel of aucubin accelerated wound healing time (11.7 days) compared to the negative control (24.4 days). **Conclusion:** Aucubin can be used as a drug candidate for diabetic wound healing.

Key words: aucubin, wound healing, diabetic wound, hyperglycemic