EFFECT OF SHRIMP SKIN CHITOSAN ON TOPICAL DENSITY OF COLLAGEN IN EXCISION WOUNDS HEALING ON SKIN OF WHITE RATS (*Rattus norvegicus*)

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ABSTRACT

Excision wounds are wounds that the surface of the skin and the bottom layer will be severed until varying depths can occur intentionally or unintentionally. Chitosan is a compound in shrimp skin that has the potential as wound healing and is able to increase collagenisation in injured skin. The aim of this study was to determine the effect of shrimp skin chitosan on the density of collagen in the process of healing excision wounds in white rats. This research used 20 male rats. Rats divided into 5 groups: K- (excision wound + ointment base without shrimp chitosan), K + (excision wound + 10% povidone iodine), P1 (excision wound + shrimp skin chitosan ointment 1.5%), P2 (excision wound + shrimp skin chitosan ointment 2.5%), and P3 (excision wound + shrimp skin chitosan 5%). The results of the calculation of the percentage of collagen density were analyzed by Kruskal-Wallis which showed a significant difference ($p < 0.05$) and continued with the Mann-Whitney-U test. Group (K +), (K-) and P1 had significant differences in collagen density in P2, and P3 groups ($p < 0.05$). From the results of the study it can be concluded that chitosan has an effect on the density of collagen with the best dosage is 5%.

Kata kunci : collagen, chitosan, excision wounds, collagen density