ABSTRACT

Pengaruh Aplikasi Topikal Gel Glutathione Terhadap Proliferasi Fibroblas Pada Soket Ekstraksi Gigi Tikus (Eksperimental Labolatoris)

The Effect Of Topical Application Of Glutathione Gel In Improvement of Fibroblast Proliferation Post Rat Tooth Extraction (Experimental Labolatories)

Background. The process of wound healing after extraction a teeth is a cellular process, which restores the integrity of the tissue structure in wound healing. A wound requires antioxidant supply in order to heal. There is $\text{H}_2\text{O}_2$ in every inflammation phase of wound healing. $\text{H}_2\text{O}_2$ caused delayed of fibroblast proliferation. Fibroblast proliferation plays an important role in the healing process. Glutathione reduce and break the $\text{H}_2\text{O}_2$ chains that are not used anymore in inflammation phase. Broken $\text{H}_2\text{O}_2$ chains will decrease oxidative stress, increase fibroblast proliferation, and increase wound healing after tooth extraction. Purpose. To determine effect of topical application of glutathione gel on proliferation of fibroblasts in the socket after tooth extraction. Method. Post test only controlled group 32 male Wistar rat, divided into 2 groups. The left insisivus mandibula was extracted. 2 mg glutathione gel was applied on intervention group. The observations were made on the third day by counting the fibroblast cell and using histopathological samplings. Data were analyzed using Independent T-test. Result. Topical application of glutathione in socket after tooth extraction increase the number of fibroblast proliferation. The result is ($p<0.05$), a significant difference between the control and intervention groups could be obtained. Conclusion. Topical application of glutathione give significant result to increase fibroblast proliferation after tooth extraction of Wistar rat on the third day.

Keyword: tooth extraction, fibroblast proliferation, glutathione.