

ABSTRACT

The Application of Secretory Leucocyte Protease Inhibitor Recombinant Amnion Membrane On Incision Of Rattus Norvegicus To The Number of Blood Vessel and TNF- α

Background: Biomaterials for human body can be used to accelerate the wound healing process such as Secretory leukocyte protease inhibitor recombinant derived from amniotic membrane that has several functions are to inhibit the protease, control leukocytes activity, regulate TGF- β , anti inflammatory, anti bacterial, anti retroviral. **Purpose:** The purpose of this study is to know the application of recombinant SLPI on incision wounds of *Rattus norvegicus* in increasing the number of blood vessels and decreasing TNF- α cell on day 4, **Methods:** *Rattus norvegicus* is divided into one control group and 3 groups treated with liquid application of SLPI 0.03 cc, 0.45 cc, 0.060 cc. Liquid is applied to the back of the former cuts in mice. On the 4th day, HPA preparation of the wound incision is made using Haematoxinil eosin staining (HE) and immunohistochemistry (IHC). Blood vessels and TNF- α cell number is calculated using microscope with 400x magnification. Data is analyzed using one-way ANOVA and Kruskal-Wallis test. **Results:** The result of TNF- α shows the mean number of group K= 21,00, P1= 15,83, P2= 10,17, and P3= 8,50. The result of blood vessels show the mean number of group K= 10,67, PI= 14,17, P2= 24,67, and P3= 20,83. One way Anova test of blood vessel's data obtained significant value of $p < 0.05$ and HSD test shows a significant differences between control group and treatment groups. Kruskal-Wallis test of TNF- α cells data obtained significant value of $p < 0.05$. Mann-Whitney test shows a significant difference of control group and treatment group. **Conclusion:** The application of SLPI liquid with amount of 0.45 cc and 0.06 cc can decreases the number of TNF- α and increases the number of blood vessels in day 4 with the effective application.

Keywords: cell TNF- α , blood vessel, wound healing, Secretory Leukocyte Protease Inhibitor