

MACROSCOPIC EVALUATION OF THE EFFECT OF SOMATIC ANTIGENS OF *MARSHALLAGIA MARSHALLI* ON FULL THICKNESS SKIN WOUND HEALING IN MOUSE

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Wound healing is an important clinical challenge that requires effective management. The role of type 2 immune response in wound healing is very important. This route plays a role in wound healing by producing mediators that control inflammatory reactions. Almost all types of cells that cooperate with the immune system in helminthic infections are involved in healing of ulcers. The present study was conducted to determine the effect of using somatic antigens of *Marshallagia Marshalli* Nematode on full-thickness skin wound healing in mice. In this study, 24 adult mice with an average weight of 25 ± 5 and 60 days old were used. Mice were divided into 4 categories of A, B, C and D and 6 subcategories. Group A was to test the dose of $40 \mu\text{g}$ /mice, group B was to test the dose of $20 \mu\text{g}$ /mice, group C was the Alum Adjuvant group and group D considered negative controls. Under general anesthesia by using isoflurane, an ulcer with a diameter of 9/8 mm was made in the back of animals and on the spinal cord using full-thickness skin biopsy punch. Twenty four hours after observing wounds, the mice of control group were treated with alum adjuvant and PBS and the mice of experimental group were treated with antigen and Alum Adjuvant using subcutaneous injection at the four sides of the wound. To have a geometric evaluation, digital images were provided at days of 0, 1,3,6,9,12,15,18 and 21 after observing wounds and the percentage of Epithelial tissue's creation, wound contraction and wound healing was measured using Image J software. After analyzing the data with SPSS software, there was not a significant difference in the percentage of wound contraction and wound healing in the treatment group with a dose of $20 \mu\text{g}$ ($P \leq 0.05$). The results of this study indicate that the application of somatic antigens of *Marshallagia Marshalli* Nematode with a dose of $20 \mu\text{g}$ accelerates the healing process of wound healing by subcutaneous injection.

Keywords: Macroscopic evaluation, somatic antigens, *Marshallagia marshalli*, full thickness skin wound healing, mouse