ABSTRACT

BACKGROUND: Untreated open burns may cause complications. Laser therapy has been shown to increase the number of mast cells in burns. However, the use of infrared radiation to increase mast cells in burns has not been done. The purpose of this study was to determine the effect of infrared radiation on the number of mast cells in second-degree burn.

METHOD: This type of research is experimental with post test only control groups design. Twenty four male Wistar rats were randomly assigned to 4 groups (n=6). All rats were burned with hot metal plates. Group 1 served as negative control, group 2, 3, 4 were treated with moist gauze, moist gauze and MEBO, moist gauze + MEBO and infrared radiation respectively. The number of mast cells was evaluated. The difference in the number of mast cells between groups was analyzed using one way anova followed by post hoc LSD.

RESULT: The mean number of mast cells in group 1, 2, 3, 4 was 8.33 ± 0.83, 11.17 ± 0.75, 16.00 ± 0.89, 21.50 ± 1.05 respectively. There was a significant difference in all groups (p = 0,000). LSD post hoc test produced $p < 0.05$ for all ratios of mean number of mast cells between two groups.

CONCLUSION: Infrared radiation increased the number of mast cell in second-degree burns.

Keywords: Infrared, Mast Cells, Burns