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Effect of 790-805 nm diode laser therapy on mast cell in cutaneous wound healing in mice**Warkaa M Ali Al-Wattar**

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Introduction & Aim: The use of Low Level Laser Therapy (LLLT) has been increased now a day to accelerate healing of soft tissue injuries because of some bio-stimulatory effects. The aim of this study was to investigate the effect of 790-805 nm diode lasers on the inflammatory effect of mast cells during wound healing in rodents.

Method: A cut wound (1.5 cm) was done on the cheek of 40 albino mice. 20 of them exposed to LLLT (360 J/cm²) at 790-805 nm immediately post wounding procedure. The animals were scarified and the wound area was prepared and stained with toluidine blue.

Results: Mean mast cell count of 10.2 on the first day of control group while in laser group 8.4. The control and laser group showed a gradual inclination in the mean value to be return to increase at the day 14 of the experiment. There was a significant difference ($P < 0.05$) in the control group on the first day while significant difference ($P \leq 0.05$) was in the day 7. Pearson correlation showed a significant correlation ($P \leq 0.01$) between the control group at the day 1 and the laser group on the day 7. While there was a significant correlation ($P \leq 0.05$) between the control group at the day 14 and laser group on the day 1.

Conclusion: LLLT may induce an anti-inflammatory effect on wound healing process by its inhibitory action on mast cells; while it may have a bio-stimulatory effect on the proliferation of mast cells in the proliferative phase of wound healing which indirectly affects fibrous tissue regeneration in the subcutaneous area.

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