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Original article

Reparative processes of periosteal cells irradiated with diode lasers

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Abstract

The current study aimed to highlight the behavior of the periosteal cells endured damages or excised surgically when irradiated with diode lasers.

Forty eight adult mail mice used in the experiment divided in to two equal groups with 24 one each, all the animal prepared for surgical operation which done on the lateral aspect of the left thigh, they receive general anesthesia followed with a surgical operation to cut through the muscles reaching to the periosteum which was scraped with a dimension of (0.2 X 0.7 cm) with the surgical knife.

The site of the operation in the animals of the treated group was irradiated with diode laser with wave length of 904 nm , power of 3mW after the operation directly continuing for 7 days, with 2 min./ session. Four animals from each group were sacrificed at the days 1, 3, 5 , 7 , 10 & 14 and the specimens were sent to the laboratory for histopathological examination.

The results of histopathological examination revealed the irradiation with the diode laser stimulate the reparative processes of the periosteal cells , promoting the role of the macrophages which to remove of the necrotized cells found in the area due to the scraping process and enhancing the microcirculatory bed of the area.

Conclusion can be made that the diode laser activate the periosteal cells regenerative processes , restoring the normal architecture and function.

Key words: Periosteal cells , Repair , Diode laser.

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