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ORIGINAL ARTICLE

Mechanical evaluation of the influence oflow-level laser therapy in secondary stability ofimplants in mice shinbones

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Abstract The present work evaluates mechanically the bone-implant attachment submitted or not to low-level laser therapy, with wavelength of 795 nm, in a continuous way, with power of 120 mW. The implant was placed in one of the shinbones of 24 mice, randomly distributed into two groups. The experimental group was submitted to six laser applications, divided into four points previously established, two lateral and two longitudinal, six times 8 J/cm^2 with an interval of 2 days, totaling the dose of 48 J/cm^2. The control group did not receive laser therapy. The interval between applications was 48 h and the irradiations began immediately after the end of the implant surgeries. The two groups were killed on the 14th day and a bone block of the area was removed where the implant was inserted. A torque machine was used to measure the torque needed for loosening the implants. A statistically significant difference was observed between the two groups. The experimental group presented larger difficulty for breaking up the implant interface with the bone block than the control group. It can be concluded that with the animal model and the protocol ofirradiation present in this study, the laser therapy demonstrated capacity to increase the attachment bone implant.

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