

Influence of different types of electromagnetic fields on skin reparatory processes in experimental animals

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Abstract

Wound healing is a very complex process, some phases of which have only recently been explained. Magnetic and electromagnetic fields can modulate this process in a non-thermal way. The aim of this research was to compare the influence of constant and pulsed electromagnetic fields and low-level laser therapy (LLLT) on wound healing in experimental animals. The experiment was conducted on 120 laboratory rats divided into four groups of 30 animals each (constant electromagnetic field, pulsed electromagnetic field, LLLT and control group). It lasted for 21 days. Under the influence of the constant electromagnetic field the healing of the skin defect was accelerated in comparison with the control group. The difference was statistically significant in all the weeks of the experiment at the $P < 0.01$ level. Accelerated healing was also observed under the influence of the pulsed electromagnetic field ($P < 0.05$). In the group of animals exposed to LLLT, the healing of the skin defect was faster than in the control group. The statistical significance was at the $P < 0.05$ level. Different types of electromagnetic fields have a promoting effect on the wound healing process.