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Regeneration of nerve fibers by laser irradiation of spinal nerve projections

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Abstract

The effect of short infrared laser irradiation on regeneration of nerve fibers in rat sciatic nerve was studied. Starting from the first day after nerve crushing, the projection of proximal portion of the nerve of the test group rats was transcutaneously stimulated by laser irradiation with the wavelength of 890 nm and total dose of 42 mJ/cm². The test rats demonstrated higher rate of restoration of cutaneous sensitivity in comparison with control rats, which were operated but not irradiated. The local vestibular reaction occurred 2 days earlier in the test group than in the control. On day 30 after crushing there were no significant differences in the number of myelinated fibers and mass of regenerating soleus muscle in the test and control groups. ©1998 Plenum Publishing Corporation.

Keywords

Infrared laser irradiation, Myelinated fibers, Regeneration, Sciatic nerve