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Morphological changes of the peripheral nerve of rats after damaging and pharmacological corrections by neuropeptide agents

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Aim: The aim of this work was comparative morphological analysis of the peripheral nerve of rats after its damaging without pharmacotherapy.

Methods: Studies were made on 3 groups of rats, 10 in each. 1st group with the crossed left sciatic nerve in the field of the middle third; after 10 days these animals had some repeated surgery, crossed nerve processes were found, refreshed and sutured up by the epineural stitch. 2nd was recreated above mentioned model of the peripheral nerve damaging in the conditions of Cerebrolysin application, which was administrated 21 days. 3rd was recreated model of the peripheral nerve damage in the conditions of Cerebral application which was introduced three days. Both drugs were used since third day after surgery.

Results: The materials for research were the central, peripheral parts and a neuroma of a sciatic nerve injury in 3, 6 and 12 weeks after reproduction of peripheral nerve damage. In the first group of animals the processes of regeneration, proceeds poorly evident and starts only after the 6th week of post-traumatic restoration. Second group showed the regeneration of nervous fibers, gradual restoration of its ultra-structural organizations was observed the increase of the quantity of blood vessels and hemo-microcirculation improvements. Third group showed most positive changes compared with the other groups. It was shown that the proximal piece of the injured nerve had only insignificant phenomena of irritation of nervous fibers. The phenomena of inflammatory infiltration, edema and destruction of the processes of damaged fibers decreased.

Biography

Makarenko O M obtained his PhD degree at the Moscow Medical Stomatological Institute and MD degree at the Institute of higher nervous activity in Moscow. He carried out his Post-doc researches at the Institute of higher nervous activity and T G Shevchenko National University of Kiev. He is a Professor of the psychology department and is the author of more than 100 articles in reputed journals and 5 monographs (Lambert Academic Publishing).

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