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Authors: **Луспикаян С. Х., Тараканов А. В., Воронкин Д. А.**
(Luspikayan S.H., Tarakanov A.V., Voronkin D.A.) *РОСТОВСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ*
Росздрава, Нахичеванский пер., 29, Ростов-на-Дону, 344022
State medical university of Rostov, 29, Nahichevan st., Rostov-on-Don, 344022

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Effect of arthrophon with use of Transcutaneous Neurostimulation on values of lipid peroxidation at complex post-surgical therapy in patients with purulent appendicular peritonitis

The tumour necrosis factor-alpha (TNF) plays a significant part in inflammatory destruction of pathogenesis.

Purpose – to explore the influence of arthrophon in respect of its bipathic effect combined with transcutaneous neurostimulation (SCENAR-therapy) on the state of lipid peroxidation, values of endogenous intoxication at treatment of patients with purulent appendicular peritonitis in post-surgical period.

Materials and methods: 58 patients were examined who were operated for purulent peritonitis. All the patients were treated with conventional intensive therapy. In group 1 (n =38) treatment combined with SCENAR was performed. In group 2 (n=20), four tablets per day of arthrophon were additionally prescribed, plus 5 procedures of SCENAR-therapy. The control (n=36) – healthy donors comparable as age and sex.

Evaluation of efficiency was performed according to clinical and laboratory data on the first and fifth day from the start of the treatment. Application of arthrophon led to decrease of the level of myeloperoxidase with 50.1% ($p<0.001$). The activity of catalase increased with 41% compared with the initial background ($p<0.02$) and reached the control group. In both groups, statistically reliable decrease of malondialdehyde (MDA) was noted as well as decrease of diene-conjugates on the 5th day of the treatment. The level of intoxication was defined according to the fraction of medium-mass molecules in blood plasma. After a five-day course of therapy in the first group the contents of medium-mass molecules (280) decreased with 28.8% ($p<0.01$), in the second group – with 39% ($p<0.001$). In the second group, decrease of medium-mass molecules was noted – 30.3% ($p<0.05$), in the first group a reliable change of this value was not noted. On the background of arthrophon and SCENAR-therapy, the level of circulating immune complex dramatically decreases 5 days after the treatment – 40.3% ($p<0.01$).

Conclusions: arthrophon combined with SCENAR-therapy proves to be an effective therapeutic means for post-surgical period in patients with purulent appendicular peritonitis. A significant decrease of clinical symptoms of the disease was noted, as well as normalization of paraclinical values. The combined therapy allows to correct faster and more efficiently the extent of endogenous intoxication, which were evaluated with reliable decrease of some fractions of medium-mass molecules and circulating immune complex. Arthrophon and SCENAR-therapy combined with basic intensive therapy in post-surgical period in patients with purulent appendicular peritonitis decrease the intensity of processes of lipid peroxidation on the 5th day, increase anti-oxidant protection and improve the function condition of cellular membranes.

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Russian to English translation by: Mrs. Veselina Petkovap, Mladost 329 Sofia 1712, Bulgariap

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