

autonomic tone observed with the transition to the state of «rayton» with up to $9,0 \pm 0,03$ $12,4 \pm 0,03$.

The high therapeutic efficacy of the traveling and rotating magnetic field pulse shows improvement in mental and physical condition according to the test SAN. A significant increase in the «feel» from 85,5% of patients of the group to 29,8% ($p < 0,05$), «activity» at 24,0% ($p < 0,05$), «mood» by 32, 0% ($p < 0,05$).

Conclusions. General magnetic therapy in patients on the proposed methodology, rendering the action of a systemic nature, is an effective method in treatment of patients with DE stages I-II.

The proposed medical complex with the traveling and rotating pulsed magnetic fields contribute to a more rapid regression of neurological symptoms, improve cognitive and psycho-physical functions of the brain, reduce the manifestations of autonomic dysfunction in patients with chronic brain ischemia.

Spatial heterogeneity of the traveling and rotating pulsed magnetic fields, the combined use proposed by the amplitude modulation of the magnetic field, the frequency reduces the adaptation, reduces the treatment time, increase the therapeutic efficacy and good tolerability.

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STRUCTURAL CHANGES OF LEFT VENTRICULUS IN THE RAT HEART DURING ISCHEMIA AND REPERFUSION UNDER APELIN ACTION

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Myocardium infarction with 40-minute occlusion of front descending coronary artery was mod-

eled among narcotized male rats of Vistar line with body mass of 300-400 grams with further one-hour reperfusion. Apelin-12 in doses of 0,35 mcmmole/kg of body mass was introduced to a part of the animals. It is known that exogenous C-end fragments of apelin-12 can limit the size of myocardium infarction and re-establish the heart function among animals after its regional ischemia (Pisarenko and co-authors, 2011). After the end of physiological test part, hearts were removed from the animals, washed in 0,1 M of phosphate buffer and fixed in 4% solution of paraformaldehyde during 3 days in a fridge. Material was processed in spirits of increasing concentration and primed by epoxide gum like in our publication (Pavlovich, Prosvirnin, 2011). A heart was cut into 4 rings across its longer axis. The second and the third ring from the organ top was cut into smaller pieces that included a free wall of left and right ventricles, myocardium that lies by front and rear inter-ventral furrows, and also an area of inter-atrial and inter-ventral partitions in a single block. Dehydrated material of a heart was accurately placed in capsules for priming and polymerized in thermostat. 1-mkm cuts of heart walls were received from block foundations on ultratome LKB and then colored in toluidine blue. An examination of cuts under microscope in increase of magnification from 150 to 900 showed that expressed alterations in muscle fiber in which destruction of flexing material took place and areas of over-contraction of the rest myofibrils were found in free wall of the left ventricle of an eschemized heart. Cores and mitochondrions in cells looked slightly altered and did not show any divergences in muscle fiber on intercalated discs. The middle part of myocardium was dramatically altered, and areas by endocardium and epicardium looked safe (transversal banding of unaltered myofibrils was observed in myocytes). Contents of some myocytes appeared from cells (including mitochondrions). Usage of apelin-12 decreased damage of contractile apparatus, compared to the control, but zonality of alterations within heart ventricles' walls preserved. It corresponds to the biochemical observations of decrease in reperfusion damage among rats in vivo under decrease in applelin-12 that lowered markers of myocyte necrosis (Pisarenko and co-authors, 2011). Stagnant alterations in blood vessels and accumulation of basophils in them with intensively-colored intracellular granules were observed among experimental animals. An expressed degranulation was observed within mast cells. A quantitative analysis of half-thin cuts and ultrastructure research of material of all heart cells from animals, including tracing myocardium (atriventricular node and fascicle) is required.

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