

*Materials of Conferences***APPLICATION OF ULTRASOUND AND LOW-FREQUENCY IMPULSE THERAPY IN COMPLEX TREATMENT OF PATIENTS WITH GONARTROSIS**

Abdulganiyev E.B., Nafikova U.R., Novikov U.O.

*Municipal Unitary Enterprise «Centre of Manual Therapy», Ufa, e-mail: profnovikov@yandex.ru*

**The study** was the assessment of the efficiency of application of ultrasound and low-frequency impulse therapy in complex treatment of patients with gonarthrosis.

**Materials and methods.** Examined 83 patients with gonarthrosis of the I-II stage in age from 35 to 67 years.

Patients were divided into 2 groups on conducted therapy. In the main group consisted of 45 patients with gonarthrosis of the I-II stage, received at the background of the standard treatment course ultrasound and low-frequency impulse therapy, the comparison group made up of 38 patients, who had received only standard treatment.

Assessment of the degree of inflammation of the joints was carried out with the help of the scale VAS (Visual Analogue Scale), index WOMAC (Western Ontario and McMaster University Osteoarthritis), ultrasonography, roentgenography and measurement of the circumference of the knee joints.

Of main group patients in the complex with standard treatment was included ultrasound therapy from the apparatus «Sonomed-5» (BOSCH) on the area of the knee joint, with frequency of 1 MHz, with capacity of 0,1-0,2 W/cm<sup>2</sup>, in the pulse mode, for 5-6 minutes and low-frequency impulse therapy with frequency of 100 Hz, current strength of 1-2 mA, for 5-6 minutes. The course of treatment is 10-12 daily procedures.

**The results of the study.** The results of the study showed that in patients with gonarthrosis of the I-II stage of the main group received combination of ultrasound and low-frequency impulse therapy, indicators of clinical symptoms, ultrasound examination of the knee joints surpassed the results of the comparison group, in which applies only to standard treatment.

After the course of treatment at 89,9% of the patients of the main group was decrease of pain syndrome, inflammatory phenomena, volume of movements in knee joints increased, which was confirmed by the positive dynamics of the evaluation of the level of pain on VAS with decrease by 27,3% ( $p < 0,05$ ), index WOMAC - by 25,5% ( $p < 0,05$ ), with increase in volume of movements in knee joint - by 19,5% ( $p < 0,05$ ).

Analysis of ultrasonography of the knee joints showed an reduction of inflammation symptoms at

75,3% of the patients with gonarthrosis of the I-II stage.

After the course of treatment in patients of the main group the treatment duration was  $21 \pm 7$  days, while in the control group -  $42 \pm 5$  days. The duration of remission in patients of the main group was 9-12 months, in control group – 4-6 months.

**Conclusions.** Application of ultrasound and low-frequency impulse therapy in the complex treatment of patients with gonarthrosis of the I-II stage contributes to the improvement of clinical condition, the reduction of pain syndrome, reduction of inflammatory phenomena, treatment time and increase in the duration of remission.

**References**

1. Bogolyubov, V.M. Kurortologiya and physical therapy. – M., 2012. – T.1. – 311 p.
2. Bogolyubov, V.M. Medical rehabilitation. – M., 2010. – T.1. – 415 p.
3. Bogolyubov, V.M. Combination and blend of medical physical factors. / V.M. Bogolyubov, V.S. Ulashchik // Physical therapy, balneology, rehabilitation. – 2004. – N. 5. – P. 39 – 46.
4. Ponomarenko, G.N. Private physical therapy. – M., 2005. – 743 p.
5. Habirov, F.A. Handbook on clinical neurology of spine. – Kazan, 2006. – 249 p.

The work is submitted to the International Scientific Conference "Actual problems of science and education", France (Marseille), June 2-9, 2014 came to the editorial office on 12.04.2014

**RESULTS OF THE SEARCH OF SUBSTANCES WITH NEUROPROTECTIVE ACTION AMONG THE NEW DERIVATIVES OF BACLOPHEN**

Borodkina L.E., Bagmetova V.V.

*Volgograd state medical university, The Department of Pharmacology and Biopharmaceutics of the faculty of doctors' advanced training, Volgograd, Russia*

**Introduction.** As the modification of the structure of existing medications is a productive way of the search of neuropsychotropic substances allowing to increase their effectiveness and safety [1, 2, 10], we have worked out several salts and compositions of baclophen (a GABA derivative - (4-amino-3-(para-chlorophenil)- butyric acid) with organic acids: citric, succinic, malic, oxalic, nicotinic, glutaminic and glycine. Neuroprotective action is typical of the GABA derivatives. Many structural analogues and derivatives of GABA possess neuroprotective activity – phenotropil, phenibut, pikamilon, and others [3, 8, 9]. The combination of baclophen and metabolically active acids was supposed to allow the creation of substances with marked neuroprotective effect.