

THE EFFICACY OF PHOTOTHERAPY ALONG WITH USAGE OF
ANTI-INFLAMMATORY GELS FOR THE TREATMENT OF OSTEOARTROSIS

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The use of phototherapy for the treatment of osteoarthritis (OA) contributes to the restoration of microcirculation in the affected zone, reduces pain, improves the functional ability of the joints, mits the progression of the disease and improves the life quality of patients.

The purpose of the study was to evaluate the effect of photo-magnetic therapy along with usage of anti-inflammatory diclofenac-containing gels on the course of OA.

Materials and methods. A total of 53 patients with OA were examined (22 men and 31 women, mean age 47.8 ± 8.5 years, duration of the disease 8 - 24 years). The study was conducted in the Rheumatology Department of the Kharkiv Regional Hospital. The examination and treatment of patients was performed in accordance with standard protocols (the order of Ministry of Healthcare of Ukraine N 676 from 12.10.2006).

Photo-magnetic therapy along with usage of anti-inflammatory diclofenac-containing gels was used for the treatment of osteoarthritis in the 1st group – 22 patients. The second group (23 patients) received traditional physiotherapy (electrophoresis, ultrasound, etc.).

Photon matrices "Barva-Flex / 24FM" producing the light of blue and infrared spectrum were used for the treatment in conjunction with a permanent magnet and a diclofenac-based gel bandage, which was applied to the affected joints during 30 minutes (entire course counted 10 procedures).

Results and discussion

The main clinical complaints of patients upon admission to the hospital were the following: pain, limitation of mobility in the joints, swelling and deformation of the joints, osalgia. The pain level was assessed according to visual analog scale (VAS). The patient's index of pain perception per 100 mm according to VAS was 54.7 before the initiation of treatment. Biochemical studies demonstrated an increase of plasma seromuroids (PSM), sialic acid (SA), and C-reactive protein (SRP). Determination of the bioelement balance revealed a

decrease of serum phosphorus and hypercalciuria, which were more marked in patients with long-term OA.

The indicators of the metabolism of connective tissue have also changed - there was a significant increase of the content of total chondroitin sulfates, which most likely indicated a pronounced destructive process in cartilage tissue.

A positive dynamics was observed in both groups of patients after finishing the treatment course. First, joint pain decreased (in 20 patients of the first group, and in 13 patients of the second group), the volume of movements increased (18 and 11 patients, respectively), osalgias disappeared (10 and 7 patients, respectively). The swelling of the joints significantly decreased and their function improved, these changes were more marked in the group of patients who took the course of phototherapy.

It was also stated that the patient's pain score of 100 mm according to VAS decreased more significantly in the first group of patients (by 36% compared to the initial level, 12 days after the start of treatment) The second group showed more modest decrease of pain score - 22%. The obtained data reaffirm a marked positive effect of phototherapy combined with anti-inflammatory gel on pain syndrome reduction.

A positive dynamics was observed in biochemical parameters of blood serum in both groups after the course of treatment in the hospital, but the most pronounced changes were found in patients, who received phototherapy. Thus, there was a decrease of the PSM level to 177.3 ± 8.5 mmol / l (reference value - 166.3 ± 10.6 mmol / l) and SA to 184.5 ± 10.8 mmol / l (reference value - 170.8 ± 10.2 mmol / L).

. A determination of the bioelement balance after the end of treatment has demonstrated an increase of serum phosphorus (1.1 ± 0.06 mmol / L in the first group, 0.96 ± 0.05 mmol / L in the second group) and reduction of hypercalciuria (5.1 ± 0.14 mmol / l in the first group, 5.25 ± 0.06 mmol / L in the second group).

Conclusions The method of treatment of osteoarthritis with the use of anti-inflammatory diclofenac-containing gels is clinically effective. Being a well tolerated, no side effect method, it can be broadly introduced into combined therapy of OA. In our opinion, the use of anti-inflammatory diclofenac-containing gels enhances the efficacy of photomagnetic therapy.