

THE EFFECTIVENESS OF TREATMENT OF PATIENTS WITH OSTEOARTHRITIS WITH CARDIOVASCULAR DISORDERS IN METABOLIC SYNDROME

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ABSTRACT

Currently, osteoarthritis is the most common joint disease. The incidence of osteoarthritis increases with age – in people over 60 years of age, it is diagnosed in 97%. Of particular concern is the data on the trend of increasing morbidity due to the age group younger than 45 years.

The aim of the study is to increase the effectiveness of the treatment of osteoarthritis and the prevention of cardiovascular disorders and metabolic syndrome by including combined laser therapy in complex treatment.

Materials and methods of research. A total of 82 patients with grade 2 osteoarthritis with knee and hip joint damage in combination with metabolic and cardiovascular disorders participated in the study. The duration of the disease is 5-15 years.

The results and their discussion. As a result of observation of patients in the dynamics of treatment, it was noted that in the main group of patients receiving combination therapy, pain in points significantly decreased after 11-13 days by 1.73 points ($p < 0.05$) (Table 3). Of the 42 patients observed in this group during these periods, pain syndrome persisted only in 1 patient (2.3%), among 40 patients receiving traditional drug therapy, pain syndrome persisted in 10 patients (25%).

Conclusions. Treatment of patients with osteoarthritis using combined low-intensity laser radiation (a combination of contact irradiation of joints and intravenous irradiation of blood) allows to achieve long-term remission, i.e. it has a prolonged effect, contributes to a significant reduction, and in some cases, the cancellation of drug load, which avoids side effects associated with their intake.

Key words: osteoarthritis, laser therapy.

INTRODUCTION

Radiological manifestations of osteoarthritis occur in 50% of the European population over 65 years of age and clinical in 12.5%, and in people over 80 years of age osteoarthritis is detected in almost all patients. It is predicted that by 2020, the prevalence of osteoarthritis in the population may reach 57%. In recent years, there

have been certain changes in the understanding of the processes occurring in osteoarthritis, previously considered as a degenerative joint disease. Modern rheumatology considers osteoarthritis as a chronic inflammatory disease that destabilizes the normal balance of degradation and regeneration processes in chondrocytes of articular cartilage, extracellular matrix and subchondral bone. Currently, osteoarthritis is the most common joint disease. The incidence of osteoarthritis increases with age – in people over 60 years of age, it is diagnosed in 97%. Of particular concern is the data on the trend of increasing morbidity due to the age group younger than 45 years. As a rule, a patient with osteoarthritis over the age of 50 years has more than 5 diseases at the same time and there are practically no people with primary osteoarthritis who do not have concomitant somatic diseases. According to available data, osteoarthritis is most often combined with arterial hypertension and other cardiovascular diseases (atherosclerosis, coronary heart disease), obesity, diabetes mellitus, chronic obstructive pulmonary diseases, diseases of the gastrointestinal tract.

In recent decades, scientists and clinicians have begun to comprehensively consider various metabolic disorders and diseases associated with obesity. As a result, they came to the conclusion that these pathologies have common manifestations, and combined them under the name "metabolic syndrome". It is quite obvious that an increase in body weight creates an additional load on the musculoskeletal system. This mainly concerns the condition of the spinal column and joints of the lower extremities. The main components of metabolic and cardiovascular disorders are impaired glucose tolerance, abdominal visceral obesity, hypertension, hyperuricemia, impaired hemostasis, atherogenic dyslipidemia (an increase in blood triglyceride concentration and a decrease in high-density lipoprotein cholesterol. From the point of view of life prognosis, it is important that the combination of the above disorders significantly accelerates the progression of atherosclerosis, i.e. increases the cardiovascular risk in this group of patients. The increased risk associated with obesity is largely due to the high incidence of coronary and cerebral disorders in obese people. High mortality rates and the incidence of heart complications are mainly a consequence of vascular damage, because obesity is an important factor predisposing to the development of dyslipidemia (up to 30% of obese people have hyperlipidemia), type 2 diabetes mellitus (up to 80% of type 2 diabetics are overweight or obese), hypertension (approximately half of obese people have arterial hypertension at the same time hypertension) and sudden death. In clinical practice, to assess the presence of inflammation, among other immunological markers, special importance is attached to the C-reactive protein, which is a representative of the "acute phase" protein family. Currently, highly sensitive methods for the determination of C-reactive protein have been developed, which makes it possible to assess the risk of development and progression of atherosclerosis due to

two interrelated processes: impaired metabolism and lipid transport, as well as inflammation of the vascular wall, possibly associated with autoimmune mechanisms and exposure to chronic bacterial or viral infection. The development of atherothrombotic complications is based on the "destabilization" of atherosclerotic plaque, and atherosclerosis can be considered as a chronic inflammatory human disease. Recently, more and more attention has been paid to the treatment of osteoarthritis using low-intensity laser radiation. The main objectives of laser therapy in the treatment of patients with osteoarthritis are to provide analgesic effect; improve nutrition of the tissues of the diseased joint; enhance regional blood supply and microcirculation, promote stimulation of cartilage tissue regeneration.

Treatment for osteoarthritis is still a serious problem, despite the fact that the list of drugs used has recently been significantly expanded. The search for new medicines that could It would not only reduce the pain syndrome, but also slow down the progression of joint destruction, thereby delaying the onset of disability. That is why all types of treatment are so important, and first of all effective modern medicines in combination with non-drug treatments.

The aim of the study is to increase the effectiveness of the treatment of osteoarthritis and the prevention of cardiovascular disorders and metabolic syndrome by including combined laser therapy in complex treatment.

MATERIALS AND METHODS OF RESEARCH

A total of 82 patients with grade 2 osteoarthritis with knee and hip joint damage in combination with metabolic and cardiovascular disorders participated in the study. The duration of the disease is 5-15 years.

The study did not include patients with signs of severe atherosclerotic vascular damage, with myocardial infarction, with severe cardiac, respiratory, renal insufficiency, chronic infectious diseases, tuberculosis, oncopathology, and blood diseases. All analyzed clinical and laboratory parameters They were registered on day 1-3 and day 13-14 of treatment. Long-term results were evaluated after 3 months. The main group consisted of 42 patients suffering from osteoarthritis in combination with metabolic and cardiovascular disorders. The effect of laser therapy is carried out in a combined mode. First, intravenous blood irradiation is performed with a wavelength of 405 nm, a power at the end of the light guide of 1.5 MW, the total duration of the procedure is 5minutes (ALT "Matrix-VLOK", radiating head was used KL-VLOK-405). The above-mentioned effect is carried out on the projection of the cubital vein. Then, contact irradiation of the joints is immediately carried out: with a wavelength of 630 nm, a pulse power of 10 watts, a frequency 80 Hz (ALT Matrix, CLO-3 laser head was used).

Moreover, the duration of the effect on the joints is: – knee joints: the total duration of the procedure – 10 min.: 2 min. from 4 sides and a labile technique, canning with a beam along the articular gap for 2 min.); – hip joints: the total duration of the procedure is 10 min.: irradiation through the projection zone of the umbilical cord ligaments, large trochanter of the sciatic tubercle for 2 min. and labile technique, scanning with a beam along the articular gap for 4 min.

There are 10 daily sessions per course. Laser therapy procedures are performed at the same time of day (± 1 hour). These requirements are due to the fact that the mechanisms of therapeutic action of laser therapy are based on phase and rhythmic responses of homeostasis, in particular, characterizing the correction of dysmetabolism, adaptogenic vascular reactions and others.

Therefore, an important point of laser therapy regimens to ensure an adequate therapeutic effect is to carry out therapeutic procedures at the same time of day (± 1 hour), taking into account the biological memory of the body for adaptogenic effects. The control group consisted of 40 patients suffering from osteoarthritis in combination with metabolic and cardiovascular disorders, who received traditional drug therapy, of moderate severity, in the period of exacerbation. The study of the Leken index (Jack Jean Pierre) in groups under the influence of treatment: the indicator decreased by 13-14 days on 3.2 points and 4.2 after 3 months of treatment in the main group, in the control group by 0.96 and 1.68, respectively.

THE RESULTS AND THEIR DISCUSSION

As a result of observation of patients in the dynamics of treatment, it was noted that in the main group of patients receiving combination therapy, pain in points significantly decreased after 11-13 days by 1.73 points ($p < 0.05$). Of the 42 patients observed in this group during these periods, pain syndrome persisted only in 1 patient (2.3%), among 40 patients receiving traditional drug therapy, pain syndrome persisted in 10 patients (25%).

CONCLUSIONS

Treatment of patients with osteoarthritis using combined low-intensity laser radiation (a combination of contact irradiation of joints and intravenous irradiation of blood) allows to achieve long-term remission, i.e. it has a prolonged effect, contributes to a significant reduction, and in some cases, the cancellation of drug load, which avoids side effects associated with their intake. In the process of combined laser therapy, do not the phenomena of "withdrawal syndrome" or addiction have been detected, the proposed method is characterized by complete safety and simplicity of technology.

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