

Low-frequency magnetic light therapy and antihomotoxic pharmacopuncture
drugs in the treatment of osteoarthritis of the hip joints

THOSE. Belousova, J.Yu. Karpova

(Nizhny Novgorod State Medical Academy, FPKV IPO, Nizhny Novgorod)

Low-frequency magnetic-light therapy and farmakopunktury antihomotoxic drugs in the
treatment of osteoarthrosis of the hip joints

IE Belousova, J.Yu. Karpova

Department of regenerative medicine and reflexotherapy (Nizhny Novgorod, Russia)

RESUME

The aim of the study. Create a new medical complex in patients with osteoarthritis of the hip through a combination of low-frequency magnetic-light therapy and farmakopunktury and to evaluate its clinical efficacy.

Materials and methods. The examination, restorative treatment of 120 patients with osteoarthrosis of hip joints using different methods (pharmacological, low-frequency magnetic-light therapy, farmakopunktury and standard physical therapy) and comparative analysis of results.

Results. Efficacy magnetic-light therapy and farmakopunktury antihomotoxic drugs in the rehabilitative treatment of osteoarthrosis of hip joints, and a new complex restorative treatment for patients with contraindications to nonsteroidal antiinflammatory drugs, and electrotherapy. The positive influence low-frequency magnetic-light therapy and farmakopunktury on the autonomic regulation and lipid metabolism.

Conclusion. Recommended use in combination with low-frequency magnetic-light therapy and farmakopunkturoy in the complex of regenerative therapy of hip osteoarthrosis, especially in patients with contraindications to nonsteroidal antiinflammatory drugs and electrotherapy.

Keywords: osteoarthritis, hip joints, farmakopunktura, antihomotoxic drugs, restorative therapy, low-frequency magnetic-light therapy.

SUMMARY

Purpose of the study. To create a new treatment complex for patients with osteoarthritis (OA) of the hip joints based on a combination of low-frequency magnetic light therapy (LFMCT) and pharmacopuncture (AF) and to evaluate its clinical efficacy.

Materials and methods. Examination, rehabilitation treatment carried out 120 patients with OA of the hip joints by various methods (pharmacological, AF, NCHMST, standard physiotherapy (SMT)) and comparative analysis of the results.

Results. The effectiveness of NCHMST and pharmacopuncture has been proven antihomotoxic drugs in the rehabilitation treatment of OA of the hip joints and proposed a new complex of rehabilitation treatment for patients with contraindications for non-steroidal anti-inflammatory drugs (NSAIDs) and electrotherapeutic procedures. The positive effect of NMST and AF on autonomic regulation and lipid metabolism has been proven.

Conclusion. It is recommended to use NCHMST in combination with pharmacopuncture in complex rehabilitation therapy of knee joint OA, especially for patients with contraindications to NSAIDs and electrotherapeutic procedures.

Keywords: osteoarthritis, hip joints, pharmacopuncture, antihomotoxic drugs, rehabilitation therapy, magnetic light therapy.

Introduction

Osteoarthritis (OA) ranks first in terms of prevalence among other rheumatic diseases. It is rare before 40–45 years of age (2–3%), but its prevalence increases rapidly with age. Osteoarthritis occurs in every third patient aged 45 to 64 years and in 60–70% - over 65 years old, and more often in women (the ratio of men and women is 1: 3, and with osteoarthritis of the hip joints 1: 7) [3, 4, 5, 8].

In recent years, the number of people suffering from OA at a young working age has increased, which is associated with both global deterioration of the ecological situation, and with the popularization of sports, which leads to an increase in the frequency of secondary osteoarthritis due to the increasing number of traumatic injuries of bones and joints [3, 8, 10].

Osteoarthritis significantly worsens the quality of life of patients and represents a serious socio-economic problem, being one of the main causes of persistent disability. The disability rate of patients with OA in the Russian Federation is 21.3 per 10,000 residents over 16 years of age [3]. The economic damage associated with the pathology of the musculoskeletal system is quite significant [3, 8, 9]. All of the above emphasizes the urgency of this problem not only for medicine, but also for society as a whole.

The current standard treatment for OA - non-drug (physiotherapy, exercise therapy, massage, etc.) and drug (NSAIDs, analgesics, corticosteroids, chondroprotectors, etc.) is very effective, but, unfortunately, not for all groups of patients, since there are certain contraindications and side effects [5, 6, 11, 12].

From our point of view, the optimal restorative complex for the treatment of osteoarthritis deformans (DOA), especially for patients with intolerance and contraindications to standard therapy, is the use of low-frequency magnetosveotherapy in combination with pharmacopuncture with antihomotoxic drugs, because this method has all the necessary mechanisms of therapeutic action: decongestant, anti-inflammatory, regenerative, analgesic, sedative, immunomodulatory, trophic-stimulating [2, 6, 7, 13].

Purpose of the work: to study the clinical efficacy of combined use low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs in the rehabilitation treatment of patients with osteoarthritis of the hip joints.

Materials and methods

In order to achieve the goal and fulfill the tasks set in the work, an examination and complex rehabilitation treatment of 120 patients with DOA of the hip joints was carried out. Patients who received complex rehabilitation treatment were divided into 3 groups, matched by gender, age and clinic. X-ray stages: the first - 10% (12 people), the second - 85% (102 people), the third - 5% (6 people). Functional impairment: first class - 10% (12 people), second class - 85% (102 people), third class - 5% (6 people).

The first group consisted of 40 patients with DOA of the hip joints, who received standard medication (NSAIDs, antispasmodics, chondroprotectors, B vitamins) and physiotherapy. As physiotherapy, we used sinusoidal modulated currents (CMT) from the "Ampli-Pulse-5" apparatus according to the physiotherapy standards, locally and segmental.

The second group consisted of 40 patients with DOA of the hip joints with contraindications for both standard electrotherapy (intolerance

electrotherapeutic procedures, varicose veins, thrombophlebitis), and for standard drug therapy (a history of necrotic ulcers of the gastrointestinal tract). This group of patients as physiotherapy received low-frequency magnetic light therapy (LFMST) according to local and segmental methods simultaneously from two devices "Master" - MST - 01 "(frequency 50 Hz, induction - 30 mIT, light wavelength: orange - 595-616 nm, blue - 470-485 nm, sinusoidal and pulsating modes were used), 25 minutes each, 10-15 procedures.

The third group included 40 patients with DOA of the hip joints, for whom standard electrotherapy and drug therapy are also contraindicated). This group of patients received LFTS according to the methods of the second group in combination with pharmacopuncture with antihomotoxic drugs - Traumeel S, Zel T. The drugs were injected 2.2 ml in one syringe, 0.2–0.3 ml per point, 6–8 points per procedure on both sides. Pharmacopuncture was performed in corporal acupuncture points of general action - E36, GI4, 10, 11; segmental - T14, V11, VB20, V18, 22, 23, T4 and local - V54, VB30, V36, E31.

The age and gender composition of patients with DOA was presented as follows: the average age of patients was 65 ± 1.8 years, of which: 65% were women (78 people), 35% - men (42 people), the ratio of men and women is 1: 2, respectively. The average age of the onset of the disease is 50.3 ± 3.2 years, the average duration of the disease is 12.9 ± 2.1 years: the minimum is 6 months, the maximum is 16 years. Patients who received complex rehabilitation treatment were divided into 3 groups, matched by gender, age and clinic. All patients had pain syndrome of varying severity, mild or moderate reactive synovitis, periarticular phenomena, contractures of the musculo-ligamentous apparatus, changes in posture and gait.

Among the unfavorable factors contributing to the development of DOA, the following were noted: prolonged static loads - 32% of patients, regular hypothermia - in 19% of cases, hard physical labor - in 16% of patients, recent acute respiratory viral infections - in 11% of patients, a history of trauma - in 11% of patients, acute and chronic stressful situations, as the main factor, were noted by 35% of patients.

Of the concomitant diseases, the most common: obesity II degree - 52%, obesity III degree - 21%; hypertension stage I-II - 48%, hypertension stage III - 11%; ischemic heart disease - 21%; stomach diseases (chronic gastritis, duodenitis, gastric ulcer and duodenal ulcer) - 25%; cholelithiasis and chronic cholecystitis - 13%; gynecological diseases - 29%; varicose veins - 45%, urolithiasis - 10%; prostate adenoma - 12%; chronic tonsillitis - 10%; bronchial asthma - 9%; gout - 6%; rheumatoid arthritis - 5%; food - 9% and pollen - 16% allergies.

X-ray stages: the first - 12% (14 people), the second - 84% (101 people), the third - 4% (5 people). Functional impairment: first class - 12% (14 people), second class - 84% (101 people), third class - 4% (5 people).

Among the most significant manifestations of the disease in 92% of the observed patients was the development of autonomic dysfunction, which was characterized by high polymorphism. At the beginning of the study, the majority of patients (78%) showed an increase in the tone of the sympathetic nervous system (hypersympathicotonia).

Also, the overwhelming majority of patients developed a general neurotic syndrome in the form of emotional lability, manifested by irascibility and irritability (65 and 72%, respectively).

Data processing

As a control of the effectiveness in dynamics, the data of objective clinical examination, the study of autonomic disorders, neuropsychological status, the study of the lipid profile, X-ray of the hip joints, and goniometry were assessed.

To quantitatively assess the dynamics of objective clinical symptoms, we used a multifactorial Pain Questionnaire: Multidimensional Pain Inventory (according to RD Kerns et al., 1985; EG Widerstrum-Noga, 2002), questionnaires "quality of life. Questionnaires were completed by patients before and after restorative treatment.

As an indicator of the state of the autonomic nervous system in the course of treatment, we used standard questionnaires to identify autonomic disorders, which were filled in by the patient (Vein A.M., 2000). In parallel, a medical assessment of autonomic changes was carried out according to the standard scheme for detecting autonomic disorders (Vein A.M., 2000). The study was also carried out before and after the course of rehabilitation treatment.

To study the lipid spectrum, the content of total lipids, total cholesterol, alpha-cholesterol, beta-lipoproteins and triglycerides was investigated, and the coefficient of atherogenicity was determined.

Survey data of each sick brought in v detailed a formalized medical history specially developed by us in accordance with the goals and objectives of this study.

Statistical processing of the obtained data was carried out on the basis of the SPSS statistical software analysis package. The following types of analyzes were carried out: descriptive statistics, testing for normality of distribution, comparisons of means, Spearman's nonparametric correlation, Wilcoxon's nonparametric tests of paired dependent samples, and signed. In all cases, the differences with the level of statistical significance $p < 0.05$ were recognized as significant.

Results and discussion

After the course of therapy, positive dynamics was observed in all groups in the form of pain relief. When studying the dynamics of joint pain, it was found that, first of all, night pains and pains at rest decreased and stopped. In parallel with a decrease in pain in all patients, the external manifestations of inflammation (hyperemia and edema) were arrested. The joints are painless on palpation, a decrease in the circumference of the damaged joint is noted. In all patients, the range of motion in the joints increased, and the gait returned to normal. According to comparative data from surveys before and after treatment, all patients noted an increase in work capacity, mood, tolerance for loved ones, an increase in social and sexual contacts, the level of self-service, an increase in self-esteem and an optimistic attitude towards their life.

The maximum clinical effect in the form of pain relief, an increase in physical activity, an increase in the angles of movement and relief of signs of reactive synovitis was observed in patients of the first (standard physiotherapy (SMT) in combination with NSAIDs) and the third group (NCMST in combination with pharmacopuncture).

In patients of these groups - I (SMT + NSAIDs) and III (NCHMST and AF), pain subsided after the first procedure, complete relief of severe pain syndrome after the fourth procedure. Complete regression of pain syndrome in patients of group I was 85%, in group III - 86%. Pain syndrome dynamics: before treatment in group I - 4.6 ± 1.2 points (on a 6-point scale), after treatment - 1.2 ± 1.0 points ($p = 0.001$), in group III - 4.8 ± 0.8 and 1.2 ± 0.9 points, respectively. Pain syndrome subsided after 1.3 ± 0.2 procedures, complete relief of severe pain syndrome by 4.4 ± 1.2 procedures. The decrease in the level of pain on average in the groups occurred by 3.3 points, the angle of motion in the joints increased by

10.7 and 10.5 degrees, night pain before treatment was 1.2 ± 0.6 hours, after treatment - 0 hours ($p = 0.001$), the duration of night sleep increased by 0.9 ± 0.1 in group I and by 1.3 ± 0.3 hours in group III, physical activity increased on average in both groups by 32.5% ($p = 0.001$).

Smaller, but statistically comparable, results in patients of group II (NCHMST). Complete regression of pain syndrome was observed in 75% of cases. A decrease in the level of pain was noted after 1.4 ± 0.3 procedures, relief of pain after 4.8 ± 1.1 . A decrease in the level of pain by an average of 3.0 points, the angle of motion increased by 10.6 degrees, the duration of night sleep increased by $1, 2 \pm 0.2$ hours, physical activity increased by an average of 29% ($p = 0.001$).

The relief of autonomic symptoms detected on the scale of autonomic disturbances (AM Wayne, 2000) was most pronounced in III (NCHMST + AF) and II (NCHMST) groups ($p = 0.001$), statistically comparable with standard treatment in group I ($p = 0.001$). The data are presented in table. 1. From the above data, it follows that the positive dynamics of autonomic symptoms in patients of the third group (NCHMST + AF) after the course of treatment is ahead of the corresponding changes in other groups and corresponds to a decrease in indicators on the medical scale by 44% (at $p < 0.05$) compared with the initial indicators. In the second group (NSAID), the decrease in vegetative dystonia syndrome occurred by 29.8%, in the first (NSAID) group - by 8.4% in comparison with the initial data obtained before treatment.

Table 1

Dynamics of regression of signs of autonomic dystonia according to the questionnaire for identifying signs of autonomic disorders in patients with DOA of the hip joints
(in points, $n = 120$)

Вид используемой шкалы		I группа (НПВП + СМТ)	II группа (НЧМСТ)	III группа (НЧМСТ + ФП)
Врачем	до	$42,9 \pm 4,94$	$43,9 \pm 5,35$	$44,8 \pm 4,85$
	после	$35,6 \pm 3,9$ $p = 0,09$	$28,4 \pm 3,22$ $p = 0,002$	$25,4 \pm 2,19$ $p = 0,001$
Пациентом	до	$36,9 \pm 4,69$	$37,4 \pm 2,98$	$37,7 \pm 3,79$
	после	$31,6 \pm 3,66$ $p = 0,09$	$23,4 \pm 1,11$ $p = 0,001$	$24,6 \pm 2,18$ $p = 0,001$

Indicators of reactive anxiety significantly decreased in all groups, but, as much as possible, statistically significant, these indicators are higher in groups II (21%) and III (17%) compared to the results of group I by 7% ($p = 0.001$).

In laboratory parameters, changes in the lipid profile were clearly and statistically significant only in patients of groups II and III. The results are presented in table. 2. The analysis of the obtained data showed that the inclusion of low-frequency magnetic light therapy and pharmacopuncture in the complex of rehabilitation treatment of patients with DOA has a more distinct positive effect on lipid metabolism. There was a significant increase in α -lipoproteins, a decrease in fractions (3-lipoproteins, triglycerides, total cholesterol and a decrease in the atherogenic coefficient (at $p < 0.05$).

Complications as a result of restorative therapy were observed only in patients I

groups in the form: 2 (5%) patients showed intolerance to amplipulse therapy in the form of dizziness, nausea, weakness, palpitations, increased sweating; in 7 (17.5%) patients - manifestations of gastropathy (heartburn, stomach pain). In this regard, appropriate adjustments were made to the rehabilitation therapy of these patients.

table 2

Показатели		I группа (НПВП + СМТ)	II группа (НЧМСТ)	III группа (НЧМСТ + ФП)
общ.холестерин (ммоль/л)	до	5,83 ± 1,9	5,92 ± 1,8	5,56 ± 1,8
	после	5,78 ± 1,8 p = 0,1	5,39 ± 1,7 p = 0,002	5,09 ± 1,6 p = 0,002
β-лип (г/л)	до	5,46 ± 1,6	5,17 ± 1,4	5,22 ± 1,5
	после	5,28 ± 1,3 p = 0,09	4,75 ± 1,2 p = 0,001	4,59 ± 1,1 p = 0,001
Триглицериды (мг/дл)	до	206 ± 16,2	202 ± 13,9	194 ± 14,8
	после	195 ± 15,1 p = 0,1	173 ± 17,1 p = 0,001	149 ± 12,7 p = 0,001
α-ЛП (ммоль/л)	до	1,54 ± 0,3	1,51 ± 0,4	1,45 ± 0,3
	после	1,49 ± 0,3 p = 0,1	1,69 ± 0,2 p = 0,002	1,61 ± 0,3 p = 0,001
КА (коэффициент атерогенности)	до	3,05 ± 0,8	2,94 ± 0,7	2,83 ± 0,6
	после	2,75 ± 0,6 p = 0,09	2,42 ± 0,6 p = 0,002	2,16 ± 0,4 p = 0,002

Dynamics of lipid profile parameters during treatment in patients with DOA of the hip joints

From our data, it follows that the maximum stable positive result after restorative treatment was achieved in group III of patients with DOA of the hip joints, who received NCMT and AF - 85% improvement (n = 34). In the remaining groups, the effect was less stable: in the II group of patients who received NCHMST - improvement - 75% (n = 28); in group I - standard drug and physical therapy, the improvement was 70% (n = 28).

A more persistent effect in the third group (NCMST and AF) of patients with DOA is due to the combined stimulation of sanogenetic mechanisms of regulation of low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs, since the end point of application of their action is the structures of the joints (connective tissue base, cartilage tissue), and the resulting effects are long-lasting due to the inclusion of mediated immunological reactions that suppress the processes of auto-aggression, inflammatory changes in the affected tissues and stimulating regeneration processes.

The follow-up of patients with DOA was carried out 12 months after the course of rehabilitation treatment and was assessed according to 4 main criteria: characteristics of pain syndrome, physical activity, clinical data, neuropsychological indicators. In addition, the frequency and severity of exacerbations of the disease during the time elapsed after treatment were assessed.

A more stable remission (1.0-1.2 years) was observed in patients of the third (NSAID and AF) group, less remission in patients of the second group (NMSCT) (8 months), the shortest remission in patients of the first group (NSAIDs + CMT) (5 months).

conclusions

The conducted research allows us to draw the following conclusions:

1. High clinical efficacy of combined use has been proven.
low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs in the rehabilitation treatment of DOA of the hip joints.

2. A new complex of rehabilitation therapy for hip DOA has been developed joints, comparable in effectiveness with standard electrotherapeutic treatment (CMT therapy).

3. Appointment of low-frequency magnetic light therapy and pharmacopuncture antihomotoxic drugs are especially indicated for patients with signs of autonomic dysfunction and intolerance or contraindications to the appointment of standard electrotherapeutic procedures.

4. Positive effect on the autonomic nervous system during restorative treatment with the use of low-frequency magnetic light therapy and pharmacopuncture allows achieving a longer remission (up to 1-1.2 years) and maintaining the patient's quality of life.

5. Combined application of low-frequency magnetic light therapy and pharmacopuncture antihomotoxic drugs can occur in patients with intolerance to both NSAIDs (acute and ulcerative lesions of the gastrointestinal tract) and electrotherapeutic procedures (varicose veins, thrombophlebitis, intolerance to currents, etc.).

6. The positive effect of low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs on the state of lipid metabolism, which is important to stabilize the condition of patients in delayed periods (up to 6 years) and improve the quality of life of patients with DOA.

Literature

1. Agasarov LG, Pharmacopuncture (Pharmacopuncture reflexotherapy). - Moscow: Arnebia, 2002. -- 208 p.

2. Belousova T.E. Magnetic light therapy: guidelines. - N. Novgorod:

Nizhny State Medical Academy, 2003. -- 65 p.

3. Vyalkov A.I., Gusev E.I., Zborovskiy A.B., Nasonova V.A. Main goals international decade (The Bone and Joint Decade 2000-2001) in improving the fight against the most common diseases of the musculoskeletal system in Russia // Scientific and Practical Rheumatology. - 2001. - No. 2. - S. 4-8.

4. Clinical guidelines. Osteoarthritis. Diagnostics and case management osteoarthritis of the knee and hip joints / Ed. O. M. Lesnyak. - M.: GEOTAR-Media, 2006. - 176 p.

5. Clinical guidelines. Rheumatology / Ed. E.L. Nasonov. - M.: GOETAR-Media, 2006. - pp. 112-120.

6. Troshin V.D., Myasnikov I.G., Belousova T.E. magnetic fields in biology and medicine // Materials of the Russian scientific-practical. conf. "Generators of an electromagnetic field for magnetotherapy". - Sarov, 1995. - S. 34-36.

7. Kholodov Yu.A. Magnetobiological bases of magnetotherapy // Millimeter waves in biology and medicine. - 1995. - No. 6. - P. 5-10.

8. Badley EM, Ibanez D. Socioeconomic risk factors and musculoskeletal disability // J. Rheumatol. - 1994. - Vol. 21. - P. 515-522.

9. Badley ME The economic burden of musculoskeletal disorders in Canada is similar to that for cancer, and may be higher // J. Rheumatol. - 1995. - N 22. - P. 204-206.)

10. Felson DT Epidemiology hip and knee osteoarthritis // Epidemiol. Rev. - 1988 -Vol. ten. - P.1 - 28.

11. Coggon D, Croft P, Kellingray S et al. Occupation physical activities and osteoarthritis of knee // Arthritis Rheum. - 2000. - Vol. 43, No. 7. - P. 1443-1449.

12. Spiegel BM, Targownik L., Dulai GS, Gralnek IM The cost-effectiveness of

ceclooxegenase-2 selective inhibitors in the management of chronic arthritis // Ann. Intern. Med. - 2003. - Vol. 138, No. 10. - P. 795-806.

13. Trock DH Electromagnetic fields and magnets. Investigational treatment for musculoskeletal disorders // Rheum. Dis. Clin. North. Am. 2000 Feb; 26 (1): 51-62.

Author's address

Doctor of Medical Sciences, Professor Belousova T.E.

Head Department of Rehabilitation Medicine and Reflexology, Nizhny Novgorod State Medical Academy, FPKV IPO.

v-kafedra@rambler.ru

Belousova, T.E. Low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs in the treatment of osteoarthritis of the hip joints / T.E. Belousova, J.Yu. Karpova // Traditional medicine. - 2011. - No. 1 (24). - pp. 29-34.

[To favorites](#)