New directions in medical rehabilitation of the lumbosacral dorsopathies

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New methods of medical after care treatment for patients with dorsopathy of lumbar spine

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SUMMARY

Dorsopathies are the most common diseases in the structure of neurological pathology. The search for new treatment complexes for full-fledged medical rehabilitation of patients with dorsopathies is a priority in neurology. The clinical effectiveness of the rehabilitation complex for patients with dorsopathies of the lumbosacral spine, consisting of the combined use of low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs, has been proven. This approach has all the necessary mechanisms of therapeutic and rehabilitative action: decongestant, anti-inflammatory, regenerative, analgesic, sedative, immunomodulatory, trophico-stimulating.

Examination, rehabilitation treatment of 120 patients with dorsopathies of the lumbosacral spine was carried out. Such a rehabilitation approach is of particular importance for patients with contraindications for the use of non-steroidal anti-inflammatory drugs and electrotherapeutic procedures. The positive effect of this treatment complex on autonomic regulation and lipid metabolism has been proven, which ensures an increase in the quality of life and a full-fledged effect of the therapeutic aftereffect (up to 9-12 months).

Key words: dorsopathies, low-frequency magnetic light therapy, pharmacopuncture with antihomotoxic drugs.

RESUME

As dorsopathy is the most common problem of modern neurology, the search for new methods of complex medical after care treatment for such patients shall be deemed a most important research area. Clinical efficiency of complex after care treatment for patients with dorsopathy of lumbar spine (120 persons) under application of low-frequency magnet and photo therapy and pharmacopuncture by means of antihomotoxic preparations was prooved. Such approach has all the necessary mechanisms of curative and after care treatment: decongestant, antipyretic, regenerative, anaesthetic, sedative,

immunomodulatory, trophism-stimulating.

Such after care approach is of great importance in the treatment for patients with contraindications for nonsteroid anesthetics and electrotherapeutics. It was proved that such complex treatment has a positive impact on autonomic balance and lipid metabolism, which ensures the increase of life quality and comprehensive curative effect (up to 9-12 months).

Keywords: dorsopathy, low-frequency magnet and phototherapy, pharmacopuncture by means of antihomotoxic preparations.

Introduction

According to the WHO (2004), in the general structure of morbidity in the adult population, diseases of the peripheral nervous system rank third after influenza and domestic injuries and first among chronic diseases. Dorsopathies, including lumbosacral, are the most common diseases in the structure of neurological pathology. According to world indicators, among people aged 20 to 50 years, they make up from 35 to 75% in it, affecting the most active working-age population and being the main reason for its long-term disability and disability. [2, 4, 5, 6] Despite the use of highly effective anesthetic pharmacological drugs, as well as methods of physical and kinesitherapy, there is a steady increase in diseases of the spine. The current standard treatment is non-drug (physiotherapy, physiotherapy exercises, massage, etc.) and medication (non-steroidal anti-inflammatory drugs (NSAIDs), analgesics, antispasmodics, corticosteroids, muscle relaxants, vitamins, etc.) are very effective, but unfortunately, not for all groups of patients, since there are certain contraindications and side effects. [2, 4]

Currently, in medicine, the search for new effective methods of medical rehabilitation of dorsopathies is very relevant, taking into account the individual characteristics of the course of the pathological process and providing control and optimization of the prescribed treatment, restoration of the functions of individual organs and systems. From our point of view, the optimal rehabilitation complex for dorsopathies of the lumbosacral spine, especially for patients with intolerance and contraindications to standard therapy, is the combined use of low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs. these methods have all the necessary mechanisms of therapeutic action: decongestant, anti-inflammatory, regenerative, analgesic, sedative, immunomodulatory, trophico-stimulating. [1, 3, 7, 8]

purpose of work- to study the clinical effectiveness of new rehabilitation complexes for patients with dorsopathies of the lumbosacral spine.

Materials and methods

To achieve the goal and fulfill the tasks set in the work, an examination and complex rehabilitation treatment of 120 patients with dorsopathies of the lumbosacral spine were carried out. At the same time, the following syndromes were observed in patients: lumbodynia, lumboishalgia, radicular. Patients who received complex rehabilitation treatment were divided into 3 groups, matched by sex and age. The first group consisted of 40 patients with dorsopathies of the lumbosacral region with contraindications for exercise physiotherapy (intolerance to electrotherapeutic treatment, varicose veins, thrombophlebitis). This group of patients receivedstandard

drug therapy: NSAIDs, antispasmodics, analgesics, muscle relaxants,vitamins of group B. The second group consisted of patients (38 people) who received standard drug therapy in combination with standardphysiotherapy.Sinusoidal

modulated currents (CMT) from the "Amplipulse-5" device according to the standards of physiotherapy - locally and segmentally with paravertebral electrodes on the lumbar region. Drug therapy did not differ from the treatment in the first group.

The third group included 42 patients who, due to concomitant pathology (ulcerative necrotic lesions of the gastrointestinal tract), did not use NSAIDs. This group of patients received low-frequencymagnetic light therapy (NMST) according to local and segmental techniques fromapparatus "Master" - MCT - 01 "(frequency 50 Hz, induction 30 mlT, light wavelength: orange - 595–616 nm, blue - 470–485 nm, sinusoidal and pulsating modes were used), in combination with pharmacopunctureantihomotoxic drugs - Traumeel S, Cel T, Discus compositum. Pharmacopuncture was performed at corporal acupuncture points: V60, V23, V24, V27, V28, V31-V34, V35, V36, V55, V56, V57, V40, VB34, VB39, T2, T3, T4, T5, T14.

The drugs were injected once a day, subcutaneously or intradermally, 0.2–0.3 ml per acupuncture point. The average number of points per procedure is 5–9. The course consisted of 10-12 sessions.

The age and gender composition of patients with dorsopathies was presented as follows: the average age of patients was 65 ± 1.8 years, of which 65% were women (59 people), 35% were men (31 people), the ratio of men and women was 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 8 years. Of the unfavorable factors contributing to the development of dorsopathies, the following were noted: prolonged static loads - in 32% of patients, regular hypothermia in 19% of cases, hard physical labor - in 16% of patients, recent acute respiratory viral infections - 11% of patients, injuries in anamnesis - in 11% of patients, acute and chronic stressful situations as the main factor were noted by 35% of patients.

As a control of the effectiveness in dynamics, the data of an objective clinical and neurological examination, the study of autonomic

disorders, neuropsychological status, study of the lipid profile, X-ray of the lumbosacral spine.

In the initial state, all patients presented complaints characteristic of their disease of various neurological manifestations, the central place among which was occupied by pain (in 100% of cases). The pain was of a different nature, different intensity and localization. Frequent neurological manifestations were limitation of movements and muscle tension (80%), "numbness", mainly at night (73%), "crunching" during movement and forced position (35%). Also, in 100% of cases, changes in posture and gait were observed.

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 (68%) showed an increase in the tone of the sympathetic nervous system (hypersympathicotonia). Vagotonia (parasympathicotonia) was determined in 22% of patients. Eithonia (a balanced state of the regulatory systems of the autonomic nervous system) was observed in only 10%.

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).

X-ray examination of the spine revealed various disorders in the structure of the vertebral bodies, which were characterized as degenerative-dystrophic changes, most pronounced in the L5 – S1 segments.

Data processing

To quantitatively assess the dynamics of objective clinical symptoms, we used the 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 indicators 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 medical rehabilitation.

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

The examination data of each patient was entered into a detailed formalized medical history, specially developed by us in accordance with the goals and objectives of this study.

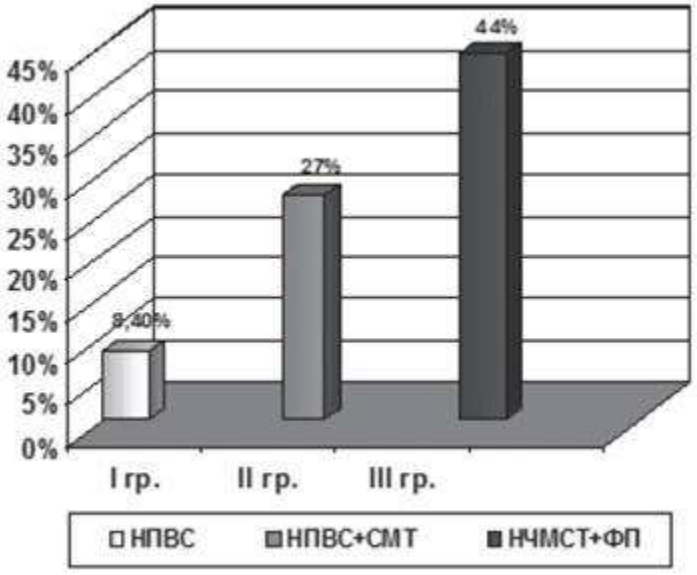
Statistical processing of the obtained data was carried out on the basis of the SPSS statistical software analysis package. The following types of analyzes were carried out: descriptive statistics, testing for normality of distribution, comparisons

means, Spearman's nonparametric correlation, Wilcoxon's nonparametric dependent paired samples and signed tests. 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 in the form of pain relief was observed in all groups. When studying the dynamics of pain, it was found that, first of all, night pains and pains at rest decreased and stopped. In all patients, the range of motion in the spine increased, posture and gait returned to normal. In comparative surveys before and after treatment, all patients noted an increase in performance, 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 relief of pain syndrome, increase in physical activity, increase in angles of movement, decrease in the severity of scoliosis, radicular and neurodystrophic syndromes, we observed inpatients of the second (SMT + NSAIDs) and third groups (NCHMST + AF). Dynamicsregression of neurological symptoms is shown in Fig. 1. In patientsthe second group (NSAIDs and CMT), pain subsided after the firstprocedures, complete relief of severe pain syndrome - after the 4th procedure. Pain syndrome: before treatment - 4.6 ± 1.2 points (on a 6 point scale), after treatment - 1.2 ± 1.0 points (p = 0.001), decrease in pain level by an average of 3.3 points, increased the angle of motion in the joints 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 hours, physical activity increased by an average of 32.5% (p = 0.001). The relief of autonomic symptoms detected on the scale of autonomic disturbances (AM Wayne, 2000) was moderately expressed: from 42.9 ± 4.94 to 30.6 ± 3.95 (p = 0.001), the relief of reactive anxiety indicators was on average 15% (p = 0.001). In laboratory parameters, there was no change in the lipid profile.

Rice. 1. Dynamics of objective neurological symptoms in% in patients with dorsopathies of the lumbar spine after rehabilitation treatment.



Rice. 2. Reduction of autonomic dysfunction in% after rehabilitation treatment in patients with dorsopathies of the lumbosacral region.

Comparable results were obtained during the course of medical rehabilitation of patients of the third group (NCHMST + AF). Pain syndrome subsided after 1.3 ± 0.2 procedures, complete relief of severe pain syndrome was observed by 4.4 ± 1.2 procedures; pain syndrome before treatment - 4.6 ± 1.2 points, after treatment - 1.4 ± 1.1 points (p = 0.001), the duration of night sleep increased by 2.1 hours, physical activity increased by an average of 30% (p = 0.001) ... The relief of autonomic symptoms detected on the scale of autonomic disorders (AM Wayne, 2000) was maximum in this group - from 44.8 ± 4.85 points to 25.4 ± 2.19 points after treatment, relief of reactive anxiety indicators on average by 21% (p <0.001). In laboratory parameters

noted a change in the lipid profile. This fact of a positive effect on the dynamics of neurological status and vegetative status can be explained by a combination of the reflex effect of pharmacopuncture at the segmental level, followed by activation of the central structures - gray matter, reticular formation, suture nuclei and stimulation of the antinociceptive reaction with the formation of endogenous opioid peptides - enkephalins and endorphins, and anti-inflammatory, decongestant and regenerative action of the antihomotoxic drugs used: Traumeel S, CelT, Discus compositum. The minimum effect was obtained in medical rehabilitation in patients of the first (NSAID), statistically significant difference with patients in the second and third groups ($p = 0.002$). In patients of the first (NSAID) group, the pain syndrome decreased after 4.7 ± 0.8 days of therapy (NSAIDs). Complete relief of pain was observed by 14.8 ± 1.8 days, pain syndrome before treatment was 4.6 ± 1.2 points, after treatment 2.2 ± 1.3 points ($p = 0.001$), no increase in the duration of night sleep was observed ... Physical activity increased by an average of 26% ($p = 0.001$). No changes were observed in autonomic disturbances and indicators of reactive anxiety. In 11 people, manifestations of gastropathy were observed.

The dynamics of regression of signs of vegetative dystonia is shown in Fig. 2. From the above data, it follows that the positive dynamics of vegetative symptoms in patients of the third group (NCHMST and pharmacopuncture) after a course of medical rehabilitation is ahead of the corresponding changes in other groups and corresponds to a decrease in indicators on a medical scale by 44% (at $p < 0.05$) by compared with the baseline. In the second group (NSAIDs and SMT), the decrease in the syndrome of vegetative dystonia occurred by 9.8%, in the first (NSAID) group by 8.4% in comparison with the initial data obtained before treatment.

The dynamics of lipid profile indicators is presented in table. 1. The analysis of the obtained data showed that the inclusion of low-frequency magnetic light therapy in combination with pharmacopuncture in the complex of medical rehabilitation of patients with DOA, in combination with pharmacopuncture, has a more pronounced 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 $p < 0.05$).

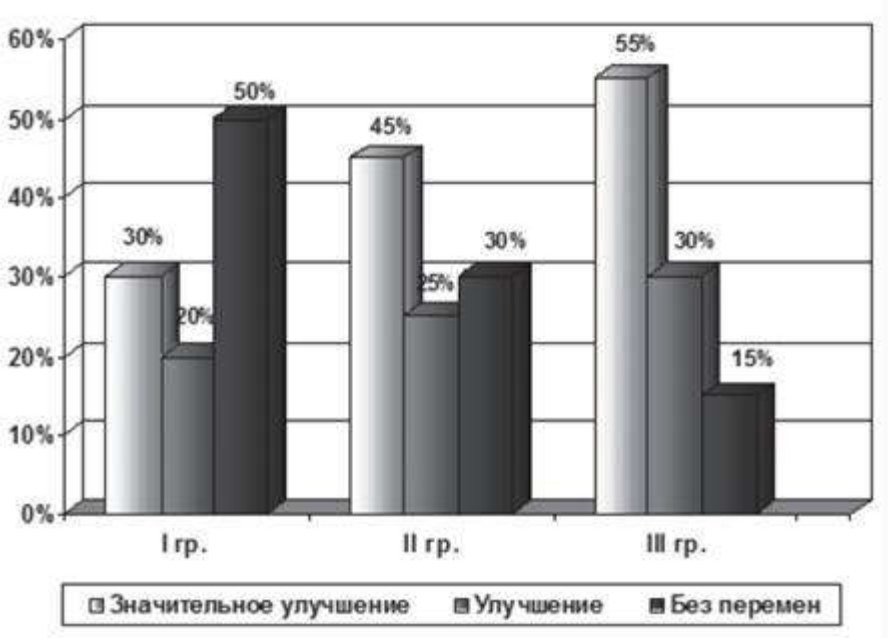
Table 1

Dynamics of lipid profile indicators during treatment in patients with dorsopathies of the lumbosacral level

Показатели		I группа	II группа	III группа
общ. холестерин (ммоль/л)	до	5,83 ± 1,9	5,71 ± 1,8	5,56 ± 1,8
	после	5,78 ± 1,8 p = 0,1	5,56 ± 1,8 p = 0,09	**5,09 ± 1,6 p = 0,002**
β-ЛП (г/л)	до	5,46 ± 1,6	5,32 ± 1,6	5,22 ± 1,5
	после	5,28 ± 1,3 p = 0,09	5,22 ± 1,2 p = 0,1	**4,59 ± 1,1 p=0,001**
Триглицериды (мг/дл)	до	206 ± 16,2	202 ± 15,5	194 ± 14,8
	после	195 ± 15,1 p = 0,1	184 ± 14,6 p = 0,08	**149 ± 12,7 p = 0, 001**
α-ЛП (ммоль/л)	до	1,54 ± 0,3	1,62 ± 0,4	1,45 ± 0,3
	после	1,49 ± 0,3 p = 0,1	1,52 ± 0,3 p = 0,1	**1,61 ± 0,3 p = 0,001**
КА (коэффициент атерогенности)	до	3,05 ± 0,8	2,75 ± 0,6	2,83 ± 0,6
	после	2,75 ± 0,6 p = 0,09	2,51 ± 0,6 p = 0,08	**2,16 ± 0,4 p = 0,002**

A more stable remission (1.0–1.2 years) was observed in patients of the third group (NSAID and homeosinatria), less remission in patients of the second group (NSAIDs and SMT) (8 months), the shortest remission in patients of the first group (NSAIDs)) (4 months).

We evaluated the obtained positive results on a scale of "significant improvement", "improvement", "slight improvement" and "no change" (or worsening). The criteria for effectiveness were the degree of normalization of the subjective and objective picture of the disease: the absence (decrease) of complaints of pain in the joints, an increase in physical activity, range of motion in the affected joints, mood, sleep, improvement of the "quality of life", normalization of the vegetative status, laboratory parameters (changes in lipid exchange) and follow-up data. The data on the results of restorative therapy are shown in Fig. 3.



Rice. 3. Results of restorative treatment of patients with dorsopathies lumbosacral spine.

conclusions

1. The clinical effectiveness of new complexes of medical rehabilitation for patients with dorsopathies of the lumbosacral level.

2. A new complex of rehabilitation therapy for dorsopathies, consisting of the combined use of low-frequency magnetic light therapy and pharmacopuncture is comparable in effectiveness with standard electrotherapeutic treatment (CMT therapy).

3. Medical rehabilitation course based on combined use low-frequency magnetic light therapy and pharmacopuncture with antihomotoxic drugs is indicated for patients if they have signs of autonomic dysfunction and intolerance or contraindications to the appointment of electrotherapeutic procedures.

4 Medical rehabilitation courses with the use of low-frequency magnetic light therapy and pharmacopuncture have a positive effect on the state of the autonomic nervous system, allows you to achieve a longer remission (up to 1–1.2 years) and maintain a decent quality of life for patients.

5. Low-frequency magnetic light therapy in combination with pharmacopuncture is an effective alternative for patients with intolerance and contraindications to the appointment of both non-steroidal anti-inflammatory drugs (erosive and ulcerative lesions of the gastrointestinal tract) and electrotherapeutic procedures (varicose veins, thrombophlebitis, intolerance to electric currents).

6. Revealed the positive effect of the combination of low-frequency magnetic light therapy and pharmacopuncture to normalize lipid metabolism, which is of great importance for the delayed results of medical rehabilitation and improving the quality of life of patients with dorsopathies.

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Belousova, T.E. New directions in medical rehabilitation of lumbosacral dorsopathies / T.E. Belousova, L.G. Agasarov, J.Yu. Karpova // Traditional medicine. - 2012. - No. 4 (31). - S.25-30.