The use of bioresonance therapy and alflutop in the rehabilitation of patients with chronic back pain

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Chronic back pain (HBS) refers to one of the most common pain manifestations in pathology of the musculoskeletal system. Typically, this condition is difficult to treat, and treatment costs account for about 80% of all health care costs. Over the age of 25, due to chronic pain, 30% of the population are disabled for at least a week a year, after 40 years - more than 60% [10]. Although an episode of back pain is often short-lived, about a third of patients subsequently develop chronic pain that persists for more than 12 weeks and causes long-term disability in 4% of the population [1].

A significant part of pain syndromes is represented by muscle pain or, according to the modern classification, myofascial pain syndrome (IFBS). According to the definition recommended by the International Association for the Study of Pain (IASP), IASP is a chronic pain syndrome arising from one or more trigger points in one or more muscles of the spine. In the classification of chronic pain IASP (1994) in the class of local pain syndromes, the term is also used: trigger point syndrome. By Travell and D. Simons,myofascial trigger point (MPTP) is a hyper-irritable area in the hardened or taut gravity of the skeletal muscle and localized in the muscle tissue and / or in its fascia. According to Ya.Yu. Popelyansky, musculoskeletal pain refers to reflex syndromes of vertebrogenic genesis.

Effective treatment of MFBS is an urgent problem. The variety of causes of pain syndrome requires extreme care in the diagnosis and development of treatment tactics. There are no universally effective treatments for chronic back pain [1].

Drug therapy: NSAIDs, muscle relaxants, therapeutic blockades, ointments, calcium preparations that contribute to the relief of acute back pain, with chronic pain are ineffective and are indicated only with its exacerbations and often have limitations in prescription due to the formation of allergic reactions. In addition, it has been proven that NSAIDs have a gastropathic and cardiopathic effect, and with prolonged treatment, they can inhibit the synthesis of glucosaminoglycans, which are structural components of cartilage tissue, except for NSAIDs acting selectively [2]. Medicines are used incomplex with physical methods, and their use allows you to enhance the therapeutic effect on various links of the pathogenetic algic chain.

In the presence of persistent discogenic pain that interferes with adaptation, disc manipulation or surgery, intra-articular steroid administration, or radiofrequency neurotomy may also be indicated. However, the invasiveness of these methods and the possibility of serious side effects make us look for new possibilities for conservative therapy of chronic back pain.

Non-drug methods of therapy are widely used: reflexotherapy - acupuncture, physiotherapy, balneological, manual, traction. The use of manual methods of treatment, IRT MFBS is highly effective, but it requires a fairly long course of therapy, significant labor costs and high qualifications of the doctor. The appointment of physiotherapeutic methods of treatment, due to the presence of many contraindications, cannot be applied in the treatment of many patients.

Bioresonance therapy (BRT) Is a new non-invasive direction of treatment and prevention diseases of the human body, therapy by the patient's own oscillations and with the help of external electromagnetic fields and radiation. BRT is based on a systemic, meridian approach to the treatment of various diseases. There is a way to conduct BRT along all or individual acupuncture meridians or biological active points (BAP), biologically active zones (BAZ). In all methods, inversion of the spectrum of pathological oscillations is possible. BRT, as a method of adaptive biocontrol, allows tuning of internal electrical signals to activate mechanisms aimed at eliminating pathological rhythms of biochemical processes in the body [3].

Indications for the use of BRT: functional disorders of various origins; diseases of the central nervous system and sensory organs; diseases of the autonomic nervous system; pain syndromes of various localization and genesis; diseases of the circulatory system; respiratory diseases; diseases of the gastrointestinal tract; diseases of the skin and subcutaneous tissue; diseases of the musculoskeletal system; diseases of the urinary and genital organs; poorly healing wounds and ulcers.

Contraindications to the use of BRT: at present, no absolute contraindications have been identified. Relative contraindications: the patient has an implantable pacemaker; individual intolerance to electric current.

One of the most important factors determining the tendency for chronic back pain is the destruction of cartilage tissue, involving both intervertebral discs and intervertebral joints. It is this that causes persistent biomechanical disorders, contributing to the constant resumption of pain syndrome, and provokes further progression of the pathological process in the structures of the spine, closing the vicious circle in osteochondrosis of the spine.

In this regard, in the complex treatment of osteochondrosis of the spine, it may be advisable to use the so-called chondroprotectors: alflutop, chondroitin sulfate, glucosamine, etc. From

of the group of chondroprotectors, a biotechnological preparation is being used more and more actively Alflutop (Biotechnos, Romania) with a positive ten-year clinical experience [4].

Alflutop - an extract of 4 species of marine fish containing glycosaminoglycans (hyaluronic acid, chondroitin sulfate, dermatan sulfate, keratan sulfate, amino acids, polypeptides, trace elements), increases the concentration of hyaluronic acid by increasing its synthesis in the synovial fluid and increases antihyaluronidase activity and thereby inhibits the activity of hyaluronidase and other enzymes that destroy the intercellular matrix [5, 6].

These substances are a substrate for the synthesis of cartilage proteoglycans, protect the pain receptors of the synovial membrane from irritation, improve the properties of the synovial fluid and improve metabolic processes in the cartilage. In addition, alflutop, including inhibition of the biosynthesis of inflammatory mediators, has an anti-inflammatory effect [6, 7].

Indications for the use of alflutop: primary and secondary osteoarthritis of various localization (coxarthrosis, gonarthrosis, arthrosis of small joints), osteochondrosis, spondylosis, traumatic dysostosis, chondral and endochondral ossification disorders, periodontopathy (adjuvant therapy).

Contraindications to the use of alflutop: hypersensitivity, pregnancy, lactation, childhood. Caution: adolescence.

Side effects on Alflutop: allergic reactions; irritation and itching at the injection site; myalgia, arthralgia (increased after intra-articular administration).

Alflutop is used intramuscularly, 10 mg daily for 20 days; with the involvement of large joints - intra-articular 20 mg in each affected joint 1 time in 3 days (6 injections), then - in / m for 20 days. Repetition of the course - after 4-6 months.

Manufacturer: Biotehnos SA (Romania), representative office of the manufacturer Alflutop - Rompharm Company.

Purpose of the study: to reduce the frequency of exacerbations, the duration and severity of exacerbations of diseases accompanied by MFBS, thereby delaying or preventing the development of neurological deficits.

Material and research methods

Since 2006, 66 patients with CHD have been studied. CHD was observed in patients as a result of the developed neurological complications of osteochondrosis of the spine at the cervical, thoracic, lumbosacral levels. Of these women - 47, men - 19 aged 20 to 70 years. All patients were taken for treatment after unsuccessful or ineffective therapy with other methods (NSAIDs, analgesics, ointments, physiotherapy). Careful palpation of painful areas and finding MPTP were carried out, which is a necessary condition for the success of therapy. Depending on the severity of the disease, ultrasound, X-ray, CTG, MRI of the spine were performed. The therapeutic tactics depended on the severity of the pathological process.

The patients were divided into three groups depending on the severity of pain, muscle-tonic syndromes and psychoemotional state.

Group I - patients with moderate severity of MFBS, without signs of psychoemotional instability and a history of the disease up to 5 years - 29 patients (43.9%). The therapy was carried out with Alflutop 1.0 ml by injection into 4-5 MPTP, s / c after one or two days, depending on the severity of the pain syndrome. No other methods of administering alflutop were used.

Group II - patients with severe manifestations of MFBS, with signs of psychoemotional instability and a long history of the disease up to 10 years - 23 patients (34.8%). BRT was carried out using an IMEDIS device for autonomous BRT, with the application of a UMT “inductor” on problem areas and a “loop” inductor on the head, without the use of Alflutop, after 1–2 days or 1–2 times a week [8].

Group III - patients with pronounced MFBS, with signs of psychoemotional instability and a longer history of the disease for more than 10 years - 14 patients (21.2%). Initially, the infiltration of Alflutop was carried out in 4-5 MPTP, followed by simultaneous BRT, after 1-2 days or 1-2 times a week.

In the 1st group, a larger proportion was made up of patients aged 20–30 years, 10 patients (34.5%). In the II and III groups, a greater proportion were patients aged 30 to 50 years - 13 patients (56.5%) in the II and 8 patients (57.1%) in the III group.

Research results and discussion

Patients complained of local or diffuse pain in the spine, extremities, limitation of mobility in the spine at different levels; dizziness; numbness in the limbs; fatigue, irritability, sleep disturbance.

The effectiveness of treatment was determined by the degree of regression of the severity of MFBS: an increase in the range of motion in the spine, the degree of regression of MFTP; the degree of restoration of psycho-emotional stability; the timing of treatment until the optimal effect is achieved. In accordance with the VAS scale, the patient's self-assessment test of the severity of pain was used - no pain "0" points, unbearable pain "10" points.

Table 1

Indicators depending on the localization of the MFBS and the type of therapy

Localization	Type of therapy			
	Alflutop n / a Abs. h	BRT Abs. h	Alflutop + BRT Abs. h	total Abs. hours,%
I. Cervical region spine	eight	6	2	16-24.2%
II. Thoracic department spine	7	five	2	14-21.2%
III. Lumbosacral spine	fifteen	fourteen	10	39-59.1%
Total, %	29-43.9%	23-34.8%	14-21.2%	66-100%

A larger proportion was made up of patients with MFBS at the lumbosacral level in 39 patients, which amounted to 59.1%. Most of the patients - 29, which amounted to 43.9%, received alflutop monotherapy.

table 2

Indicators depending on age

No. group	twenty-29 years		thirty-39 years		40-49 years old		50 years and older		Total	
	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
I	10	34	3	10.3	4	13.6	12	41.4	29	100
II	2	8.7	7	30.4	6	26.1	8	34.8	23	100
III	2	14.3	5	35.7	3	35.7	4	28.6	fourteen	100

From the data table. 2, it can be seen that in the 1st group a greater proportion was made by patients aged 20–30 years - 10 patients (34.5%) and from 50 years and older 12 patients (41%). In the II and III groups, a greater proportion were patients aged 30 to 50 years - 13 patients (56.5%) in the II and 8 patients (57.1%) in the III group.

Table 3

Indicators depending on gender and age

Group number ny	Age									
	20-29 years old		30-39 years old		40-49 years old		50 years and older		Total	
	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
I	husband. eight	66.7	one	8.3	one	8.3	2	16.7	12	100
	women 2	11.8	2	11.8	3	17.6	10	5.9	17	100
II	husband. one	16.7	2	33.3	one	16.7	2	33.3	6	100
	women one	11.8	five	11.8	five	17.6	6	5.9	17	100
III	husband. -	-	one	100	-	-	-	-	one	100
	women 2	15.4	4	30.7	3	23.1	4	30.7	13	100

It can be seen from the data in the table that there are more female patients in all groups: only 47, which amounted to 71.2% of the total.

Table 4

Indicators depending on the duration of treatment

Group no.	Qty within	Wed count	Qty within	Wed count	Qty within	Wed count	Qty within	Wed count	Qty within	Wed count
I	52	5.2	twenty	6,7	33	8.3	110	9.2	215	7.4
II	12	6	36	5.1	43	7.2	68	8.5	159	6.9
III	10	five	34	6.8	fourteen	4.5	22	5.5	215	5.4

The combination of the use of infiltrative administration of alflutop in the MPTP and simultaneous BRT, with the imposition of UMT on problem areas and the head in the third group of patients, with the most pronounced pathology, provided the minimum number of treatment sessions, despite the severity of the condition. The average number of sessions of one course of therapy that led to a pronounced regression of MFBS in the 1st group - 7.4; in group II - 6.9 and in group III - 5.4.

It has been studied that when alflutop is used intramuscularly or in combination with NSAIDs, the therapeutic effect occurs after the 4th-5th injection and increases during the first 3 months and is depleted by the 6th month [6, 9].

In this study, the improvement of the patient's condition in the 1st group was observed after the 1st and / or 2nd administration. In patients of groups I and III, a significant improvement in well-being according to the VAS scale was observed at the 1st and / or 2nd session (4–3 points), and after treatment - from 0 to 3 points.

Positive stable dynamics in the patients' condition was observed by the end of the second week of treatment and manifested itself in an expansion of functional capabilities: a decrease or disappearance of MPTP manifestations, a decrease in the frequency, duration and intensity of pain, an increase in the mobility of the spine and rotation of the spine, flexion of the trunk, including lateral flexion, limbs, improving the emotional state: a decrease in the level of affective attitude to pain and neurotization.

The average duration of one course of treatment in the 1st group was 18.8; in the second - 16.8; in the third - 13.9 days, respectively.

Stable positive follow-up from 6 months to a year or more. Longer follow-up in patients of group I. Repeated courses of therapy are recommended in group I after six months, a year; in groups II and III, 2 times a year.

In one case, there was a sharp increase in pain at the injection site of alflutop, followed by regression of the pain effect, against the background of continued treatment with alflutop. No other side effects were observed in patients.

A positive therapeutic effect was observed both against the background of one procedure and a course of treatment. The most stable positive dynamics in the condition of patients is observed as a result of course treatment

The therapeutic effect of the use of alflutop and BRT is determined by their mechanism of action on the pathological process: the ability of alflutop to increase antihyaluronidase activity, turn on the inhibition of the biosynthesis of inflammatory mediators and the ability to use BRT to eliminate the pathological rhythm of biochemical processes in the body.

The more pronounced therapeutic effect of the combined use of alflutop and BRT is explained by the fact that the method allows to cover various links of the pathogenetic algic chain: its peripheral and central components, which leads to mutual reinforcement of their therapeutic effects.

Conclusions:

1. The use of chondroprotector Alflutop by the method of introduction into the MPTP and carrying out BRT, as monotherapy and in combination provided a therapeutic effect in patients with MFBS.

2. Complex application of BRT and administration of alflutop in the ITF and at patients with severe manifestations IFBS, provides

- maximally pronounced therapeutic effect;
- early and sustainable rehabilitation of patients with HBS and improves their quality of life;
- a positive therapeutic effect against the background of both one procedure and a course of treatment.

3. The maximum therapeutic effect of the combined papplication alflutop method of introduction in ITF and holding BRT, is explained by the mutually reinforcing therapeutic effect on various links of the pathogenetic algic chain.

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