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# THE ROLE OF PSYCHOLOGICAL CORRECTION IN DISCOGENIC DORSOPATHIES TREATMENT

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## Summary

The article dials with the role of psychological correction in the treatment of discogenic dorsopathies based on zonal applicated ultraphonophoresis of analgesic drugs and psychological treatment of anxious depression (F41.2 Mixed anxiety and depressive disorder) with the use of binaural rhythms and magnetofotostimulation.

**Keywords:** discogenic dorsopathy, anxious depression, binaural rhythms, magnetofotostimulation.

**Introduction.** According to WHO experts the prevalence of pain syndromes reached pandemic dimensions and is a serious health and socio-economic problem in most countries. For example, low back pain is the second

most common, after respiratory diseases, reason for seeking to the doctor, and the third – of hospitalization. If you add to this problem the pain of other localization (headache, facial pain, neuropathy, myofascial pain, fibromyalgia, arthralgia, visceral pain, and others.), a kind of pain epidemy really appear.

According to the definition approved by the International Association for the Study of Pain (IASP), “pain - is an unpleasant sensation and emotional experience associated with actual or potential tissue damage or described in terms of such damage”. Pain performs for the body an alarm function, warning of external or internal exposure damaging factor.

At the same time, in many cases, the pain, especially chronic, serves as pathogenic factor, being the main and often the only manifestation of a number of diseases that pose a serious threat to the organism.

The pain, according to most researchers, is always colored by emotional experiences and it gives it a unique character. The most important factors that determine the level of pain are emotional and personal characteristics of the subject, the level of neuroticism, the presence of depressive-hypochondriac-senestopathic manifestations. It is essential that the antinociceptive system and mental condition interact with each other due to anatomical, functional and neurochemical connections.

Chronic pain, that forming in patients, often loses useful signal value. In some cases, it becomes apparent that the basis of their appearance is the psychic factor (depression, hypochondria or senestopathy) and they can be referred to as psychogenic. Sometimes the syndrome is referred to as "depression ↔ pain."

We should also note the disturbance of social intellect in patients with depression. According to the research [8], in all patients with depression was found a significant and substantial reduction of all parameters of social intellect. It was also found that depressed patients, compared with healthy subjects, assess much lower the quality of social skills in themselves and in others. However, the connection between severity reduction of social intelligence with subjective

weight (determined by A.Bek's psychometric scales of depression and anxiety) and disease duration is not found.

The success of the fight against the pain depends on the ability to combine different options of therapy against pain in combination with psychotherapy or adequate modern physiotherapy methods.

Modern requirements for the organization of a multidisciplinary approach for the implementation of the process of rehabilitative treatment and rehabilitation of patients with pain syndromes based on the need of systemic, multifactorial approach with the application of innovative technologies to optimize the use of medicines and to ensure the physiological recovery of disturbed functioning of the organs or functional systems, to reduce costs and the time of the restorative treatment or rehabilitation, as well as improve the quality of life of patients with discogenic dorsopathy [1-3].

In this regard, the development of new conservative treatment methods of back pain is perspective and of current interest.

**The aim** of the research, conducted by the authors, was to develop treatment protocols of pain syndromes in patients with discogenic dorsopathy with simultaneous correction of their psychological state based on binaural therapy and photic stimulation.

There were selected 30 patients who who voluntarily agreed to participate in the study and were randomly divided into 2 groups. The criterion for inclusion in the study group was the presence of patients with the diagnosis of "discogenic dorsopathies" in combination with anxious depression, and their informed consent to participate in the study. The group included patients aged 32-47 years, including 14 women and 16 men. Patients were randomly assigned into two groups of 15 patients (7 women and 8 men).

The 1 group was treated by pulsed ultrasonic phoresis drug «Discus compositum» (Heel company) in the area of the pain. Procedure parameters: device MIT-11, the oscillation frequency of the ultrasonic waves - 44 kHz

repetition rate of bursts of ultrasonic waves - 9.4 Hz, the amplitude of the ultrasonic oscillations 3 mkm, phoresis was carried out by a labile paravertebrally procedure on a zone of pain, the duration of one procedure was 15 minutes; the course consisted of 9 treatment procedures, performed 3 times a week. The drug «Discus compositum» (1 ampoule comprising 2.2 ml) was applied to the procedural napkin immediately before the procedure and put on the area of the pain. The procedures performed in spinal decompression state (the patient was placed on a couch with 10-25 degrees of tilt angle relative to the horizon) and an additional simultaneous exposure with therapeutic dose of magnetic field on the pain area.

In the Group 2 treatment was carried out similarly to the first group with the addition of sound effects simultaneously on the left and right ear at frequencies of binaural rhythms and magnetofotostimulation of eyebrow arches area and foramen magnum to the individual therapeutic frequency in the visible range of the electromagnetic spectrum.

Binaural stimulation was carried out on the sound generation frequency of 77 Hz for the left side. Sound generation frequency for the right channel was installed as the sum frequency of the left channel and individual therapeutic frequency, obtained on the results of individual studies of each patient. Determination of individual therapeutic frequency was performed by Samosiuk-Chuhraev's method [2]. In all patients participating in the study, it was (9,5 ± 1,7) Hz.

Photic stimulation of eyebrow arches zone and foramen magnum was performed on the individual therapeutic frequency in the visible spectrum.

Photic stimulation parameters: device MIT-MT, the pulse repetition frequency was chosen individually by the Samosiuk-Chuhraev's method [2]. In most patients it was (9,5±1,7) Hz. Magnetic induction - 30±6mTl, the power of an optical stream of red spectrum – (30±5) mW optical power flow blue spectrum light – (30±8) mW, the duration of one procedure was - 15 minutes,

the course consisted of 9 treatment procedures, performed 3 times a week. Magnetolazer applicator with red light spectrum was set in a eyebrow arches zone. During the procedure, the patient's eyes were closed. Magnetolazer applicator with blue light spectrum was installed in the foramen magnum area.

Study model included clinical and neurological evaluation of patients, determining the intensity of pain using a certain scales (scale of assessments of the autonomic nervous system status, the scale of quality of life assessment SF-36, visual analogue scale - VAS) before and after treatment. To assess the level of depression was used A.Bek's psychometric table.

**Results and their discussion**

Before treatment, the clinical picture was typical. The main symptom in patients with discogenic dorsopathy was pain with accompanying anxiety and depression. Before the treatment, all indicators, measured by patients with the help of VAS, were similar in both groups of patients.

Our results showed a positive dynamics of clinical manifestations in both groups of patients. After data analyzing, it was found that a combination of analgetic's phonophoresis in discogenic dorsopathies pain zone combined with the magnetic-stimulation of cerebral cortex on individually selected therapeutic frequency and use of binaural rhythms on analgesic frequency decrease clinical manifestations of pain by 45-65% and almost by 60% level of depression. In this case, there is more marked improvement of autonomic dysfunction symptoms, decrease in pain and an increase in the duration of remission, in its turn, it helped to improve patients's quality of life. Using the SF-36 allowed us to register and quantify changes in the patient's quality of life before and after treatment, as well as identify factors that largely affected the psychic and physical components of quality of life, which could be corrected during the patient's monitoring.

According to a survey with the SF-36 by the patients there is an improvement in the physical (PF), role-physical (RP) functioning, general health

(GH), vitality (VT), emotional functioning (RE), body pain (BR) in all treatment groups but to varying degrees. Reduction of musculo-tonic and especially pain syndromes under the influence of the developed complex treatment leads to a significant emotional state improvement of patients. According to the given data, quality of life of patients as a result of the course of treatment has improved, especially in pain sensitivity scales.

This can be explained by the fact, that the pain reduction as a result of the treatment, significantly removes the restrictions on the daily activity performance, leading to an increase of work amount, improving the quality of performed work. Patients's indicators in the second test group were higher compared with patients's indicators in the first group.

**Conclusions.**

After the analysis of obtained results completing, we determined that the most effective discogenic dorsopathies treatment protocol is combination of local action with the «Discus compositum» introduction by phonophoresis in the area of pain in spinal decompression state. Additional correction of anxious depression through the use of magnetic stimulation on the individual frequency simultaneous with the sound effect on binaural rhythms enhances the therapeutic treatment effect and more effectively reduces the level of depression.

Physiotherapy methods are pathogenetically justified in pain syndromes treating. Systemic multi-level pain syndromes treatment principle may be the following: the impact on segmental apparatus of the spinal cord with strong incentives on the pain threshold level; for act on the reticular formation (RF) is preferably carried out binaural therapy and magnetofotostimulation, mainly influencing on the limbic system of the brain that is important in the treatment of pain. It is advisable also to affect the peripheral forming pain formations (the skin receptor apparatus, fascias, ligaments and joints and others) with the use of physiologically based methods of physical therapy. Only the effect on different levels of the pain system (in one procedure at least three levels, for example,

segmental, peripheral and pathological/pain area) can be effective in the treatment of pain syndromes.

Further study of the combined use of analgesic drugs ultrofonoforezis and psychophysiological methods for depressive disorders correction on the basis of magnetic laser and binaural therapy to improve the efficiency of the treatment of discogenic dorsopathies is actual.

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