Modern methods of treatment of dorsopathies

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RESUME

The article reviews modern methods of the treatment of dorsopathy. Mechanisms of action and clinical features of both drug and non-drug methods of vertebrology are described. Special attention is paid to theoretical and practical aspects of reflex therapy, clinical homeopathy and to combined reflexo-medicamental approach to low back pain. Pronounced therapeutic effect of pharmacopuncture, an integrative method for reflex therapy and pharmacotherapy, is achieved specifically by the use of antihomotoxic medicines.

Keywords: dorsopathy, reflex therapy, homotoxicology, antihomotoxic medicines, pharmacopuncture.

SUMMARY

This article is devoted to a review of the literature on modern methods of therapy for dorsopathies. The mechanisms of action and the features of the use of both medicinal and non-medicinal methods of treatment in the clinic of vertebrology are considered. Particular attention is paid to the theoretical and practical aspects of reflexology, clinical homeopathy and combined reflex-medicamentous effects in pain syndromes in the back. A clear therapeutic result of pharmacopuncture as an integrating method in relation to reflexology and pharmacotherapy is ensured by the use of antihomotoxic drugs.

Keywords: dorsopathy, reflexology, homotoxicology, antihomotoxic drugs, pharmacopuncture.

Currently, the main direction in the treatment of dorsopathies is conservative therapy, subject to uniform principles. Since pain syndrome dominates in the clinic of dorsopathies, one of the main tasks is its relief or weakening.

Treatment must work [on the] etiological factors and interconnected links of pathogenesis, initiate sanogenetic processes,

contributing to their favorable course. To implement this, it is necessary to eliminate negative loads on the affected spine and restore locomotor function by stimulating muscle activity and normalizing muscle balance. By reducing pain and negative emotions of the patient, it is necessary to prevent the breakdown of protective compensatory mechanisms and their transition to pathology.

Treatment should be individual, With taking into account localization pathological processes in the spine and soft tissues, the phase of the disease and the effectiveness of previous therapy. The choice of treatment methods depends on the general condition, age, concomitant diseases, and the patient's profession. The correction itself should be comprehensive, gentle and affect the integrative systems of the body, the state of microcirculation and tissue trophism, and the emotional sphere [1–5].

Drug treatment for dorsopathies is carried out taking into account the form and stage of the process, the localization of the lesion and the functional state of the body. In acute pain syndrome, anesthetic blockade in the painful area with the use of local anesthetics and corticosteroids is most effective. By limiting the flow of nociceptive impulses from the damage zone to the central nervous system, drug blockades help to reduce or even eliminate pain, muscle-tonic, microcirculatory and other disorders [1, 3]. Technically, various methods of local and regional anesthesia are performed - neural therapy, infiltration (chipping) of trigger points, blockade of nerves, nerve plexuses, muscles, paravertebral and periarticular blocks [6–10].

Non-steroidal anti-inflammatory drugs (NSAIDs) as the "gold standard" of pharmacotherapy for vertebrogenic syndromes have the most stable evidence base for their effectiveness. Their mechanism of action is to inhibit cyclooxygenase (COX), a key enzyme in the metabolic cascade of arachidonic acid, which, being an essential component of the cell membrane, is a precursor of endogenous prostanoids. 2 COX isoforms have been identified; inhibition of COX-2 is considered as the most important mechanism of anti-inflammatory and analgesic activity, and blockade of COX-1 as a source of side effects associated with the intake of NSAIDs. The latter include gastro-, entero- and cardiopathies, hepato- and nephrotoxicity, as well as a procoagulant effect [11-14].

From the standpoint of the risk-benefit ratio, the optimal representatives of NSAIDs are selective COX-2 inhibitors, such as meloxicam, nimesulide, celecoxib, etoricoxib. Lornoxicam, ketoprofen, and aceclofenac have a high analgesic and anti-inflammatory potential [15–19].

Adequate therapeutic tactics provides for the earliest possible use of NSAIDs with a symptomatic purpose only in acute pain syndrome to affect the peripheral mechanisms of pain formation, no more than one drug in the minimum effective dose for the shortest possible course [20, 21].

One of the main principles of medical treatment for back pain

is rational polypharmacotherapy. The effectiveness of the treatment of dorsopathies increases with an adequate combination of anti-inflammatory drugs with muscle relaxants, vasotonics, desensitizing agents, stimulants of reparative processes, chondroprotectors, vegetative regulators, vitamins [2, 4, 22].

Chronization painful syndrome accompanied by emotional disorders with a predominance of depressive reactions, which dictates the need to expand the pharmacotherapeutic arsenal at the expense of tricyclic antidepressants and anticonvulsants. Antidepressants are effective both in the presence of depression and in the absence of severe emotional disturbances. One of the main mechanisms of action of antidepressants in chronic pain is the activation of the central serotonergic and noradrenergic antinociceptive systems as a result of the effect on cerebral neurotransmission. Anticonvulsants calm disinhibited nociceptive structures of the central nervous system [7, 20, 23, 24].

Surgical treatment for dorsopathies is used for the following indications:

- hyperalgic syndrome with impaired statics and biomechanics spine resistant to conservative therapy;
- discogenic compression of the cauda equina, compression of the spinal nerve cord with symptoms of radiculoischemia or radiculomyeloischemia in ineffectiveness of conservative therapy within 3 weeks;
- recurrence of persistent pain syndrome or aggravation of neurological disorders after the operation.

Despite the development of surgical methods, following the path of minimizing the invasiveness of the intervention and improving the technologies of intraoperative imaging, the issues of increasing the effectiveness of this treatment, postoperative rehabilitation and prevention of recurrence of pain syndrome remain urgent [25].

Chronic back and / or leg pain following anatomically successful spinal surgery is considered a "failed spine surgery" syndrome. The most important reasons for the formation of postoperative pain syndrome, the frequency of which reaches 50%, are: preserved non-discogenic compression factors and sources of nociceptive impulses in soft tissues; recurrent herniated disc; adjacent level syndrome; neuropathic pain; psychosocial factors [26]. Based on this, the tendency to expand the indications for surgical treatment in dorsopathies is often perceived with criticism [2, 3, 5, 10].

The key to successful treatment for vertebrogenic syndromes is compliance with an adequate motor regimen. In case of acute pain, the most gentle motor regimen is required, during the first 2-3 days - bed. The bed should be comfortable (ideally a detensor-mattress), the posture in bed should be antalgic. As the pain syndrome regresses and the motor regime expands, it is necessary to avoid unfavorable static physical exertion, and use an orthosis when walking. Orthotics promotes

sanogenetic fixation of the spine and continues, as a rule, until the severity of symptoms decreases. On the other hand, prolonged use of the orthosis can cause secondary hypotrophy of the muscular corset of the spine. The therapeutic effect in relation to the motor regimen consists in the fastest possible return of the patient to an active daily lifestyle [1, 27].

Among the non-drug methods for preventing the chronic course of pain syndrome, the most convincing evidence of efficacy is in relation to rational cognitive-behavioral psychotherapy and informing the patient about the benign nature of his disease [20, 28].

The important methods of treating patients with dorsopathies include physiotherapy exercises, the main means of which are physical exercises. The positive effect of physical exercises in the clinic of vertebrology is due to their stimulating, trophic, compensatory effect, normalization of impaired functions, optimization of the motor stereotype [5, 29, 30].

The issue of dosing physical activity in dorsopathies on outpatient motor modes is relevant. In this situation, the traditional methods of dosing the intensity of the load, based on the determination of the peak, average and threshold heart rate according to the results of exercise testing (PWC test), are not always correct. This is due to the fact that the patient during the therapeutic gymnastics procedure cannot reach the average and peak heart rate corresponding to the individual level of physical performance, due to the defeat of the musculoskeletal system.

The solution to this problem may lie in the use of innovative methods of kinesiotherapy, which allow performing the procedures of therapeutic exercises efficiently and safely. These requirements are met by the "Tergumed" ® hardware complex, which provides an objective assessment of the range of motion in the spine, the strength of the trunk muscles and muscle balance in the sagittal, horizontal and frontal planes. Based on the test results, an individual program of dosed training on simulators with feedback in isometric and dynamic modes with optimal positioning and stabilization of the trunk is drawn up [31].

Various forms of exercise therapy are used both for the prevention of chronicity and for the elimination of chronic back pain. A good effect was observed in multimodal patient activation programs used for this purpose [32, 33].

Massage plays an important role in the complex treatment of dorsopathies. And if among the means of exercise therapy, massage is referred to as passive physical exercises, then in reflexology it is considered as one of the main methods. The mechanism of action of massage is based on reflex, neurohumoral, metabolic effects, the initial link here is irritation of extero- and proprioceptors. The emerging responses determine the whole spectrum of the positive influence of massage on the body. In relation to the musculoskeletal system, massage restores the strength of tired muscles, increases them

working capacity, increases bioelectric activity, normalizes plastic and contractile tone, improves the functional state of the neuromuscular apparatus, blood and lymph circulation in tissues. Depending on the methodological features, with the help of massage it is possible to increase the contractility of muscles or to relax them [34, 35].

Manual therapy - one of the technologies of traditional medicine - provides elimination of functional and reflex disorders in the spine and internal organs using a set of manual techniques. Manual influence is considered as a way of stimulating the receptors of the musculoskeletal system, affecting the pathologically altered state of muscles, joints, and internal organs. As a result of the use of modern soft tissue manual techniques, mobilization of joints and manipulation techniques, pain decreases, pathological muscle tone decreases, trophism improves, mobility in the spinal motion segment (VMS) is normalized, and the motor stereotype is optimized [36–39].

The use of traction therapy in dorsopathies is pathogenetically substantiated. The most effective are hardware, dosed, intermittent, relatively local and short-term traction, realized by means of mechanical and reflex mechanisms. Under the influence of a mechanical factor, there is an increase in the intervertebral capacity for the damaged disc. Smooth dosed traction, influencing the proprioceptors in the PDS, promotes reflex relaxation of the muscles of the spine, causing vasomotor reactions and participating in the formation of a satisfactory motor stereotype [2, 5].

Physiotherapy organically fits into the complex treatment of dorsopathies, using a large arsenal of natural and preformed physical factors in all phases of the disease. In acute pain syndrome, preference is given to organ-nonspecific analgesic methods of central (transcranial electroanalgesia) and peripheral effects. The latter include local cryotherapy, erythemal doses of medium-wave ultraviolet irradiation, diadynamic therapy, sinusoidal modulated currents, short-pulse electroanalgesia (TENS), hydroelectrophoresis of drugs [40, 41].

With a decrease in the intensity of the pain syndrome, the physiotherapy program consists of methods that have analgesic, anti-inflammatory, antispasmodic, lymphatic drainage, tropostimulating effects. Among them are electrophoresis and phonophoresis of drugs, infrared low-intensity laser therapy, low-frequency magnetotherapy, multichannel electrical stimulation of the neuromuscular apparatus [42, 43].

Noteworthy are physiotherapeutic methods with an analgesic effect, such as With interstitial electrical stimulation, microimpulse activation of metabolism, vibroacoustic therapy, dynamic electroneurostimulation, and resonant electropunctural analgesia [44–47].

Natural physical factors (climate, sun, water, healing mud)

are used already at the stage of regression of vertebrogenic pain syndrome, and at the stage of remission are one of the main components of treatment [1, 41]. Hydrotherapy and balneotherapy have a distinct therapeutic and prophylactic effect in case of dorsopathies in remission. The main water techniques are medicinal baths, saunas and baths. The high efficiency of radon, turpentine and sodium chloride baths was noted. Peloidotherapy is characterized by a wide range of therapeutic effects. Native therapeutic mud and preparations from it are used using application techniques, electrophoresis, phonophoresis, and magnetopeloid therapy [48–50].

Vacuum therapy occupies a special place among medical methods at the junction of physiotherapy, reflexology and massage. The mechanism of vacuum action on the soft tissues of the musculoskeletal system includes the destruction of pathological fibrous structures, elimination of ischemia and venous-interstitial-lymphatic stasis, remodeling of the microvascular bed, restoration of interstitial drainage and micro-hemolymphocirculation with its tissue-trophic function, stimulation of regenerative and reparative processes. The therapeutic effect of vacuum as a physical factor is realized in the methods of cupping massage, mobilization - vacuum therapy, vacuum - gradient therapy, vibration vacuum therapy [34, 41, 51].

Extracorporeal shock wave therapy, the therapeutic factor of which is a shock sound wave, is aimed at eliminating muscle-tonic syndrome, myofascial trigger points and enthesopathies. The shock wave front is characterized by an extremely fast, abrupt increase in pressure to the maximum, followed by its sharp drop and a rarefaction phase. The mechanism of the analgesic action of shock wave therapy is associated with the effect of cavitation, which causes selective destruction of pathological tissue structures and nerve endings, as a result of which the transmission of the pain impulse is blocked. The release of antinociceptive neuropeptides, which promotes pain relief, is also associated with the effect of cavitation. A biphasic effect of shock wave therapy on microhemocirculation and metabolic tissue processes was revealed:

For the relief of acute and chronic vertebrogenic syndrome, ozone therapy is successfully used. The analgesic effect of ozone is due to the direct oxidation of algogen-mediators formed at the site of tissue damage and involved in the transmission of nociceptive signals to the central nervous system. The anti-inflammatory effect of ozone is based on the ability to oxidize arachidonic acid and prostaglandins synthesized from it. It also takes into account the antioxidant, decongestant and trophic effect of ozone, an increase in the excitability threshold of pain receptors. The main technology for dorsopathies is ozone puncture, which consists in the subcutaneous injection of an ozone-oxygen mixture into local, trigger and acupuncture points. A good therapeutic effect is observed when ozone puncture is combined with small autohemotherapy, infusions of ozonized saline,

insufflation [53, 54].

Hirudotherapy has wide possibilities for dorsopathies. The therapeutic effects of the method include the improvement of blood rheology, tissue microcirculation and trophism, which are the result of decongestion and blocking of the platelet-vascular and plasma hemostasis links by the components of the secretion of the salivary glands of medicinal leeches. The antiphlogistics contained in it have a local anti-inflammatory effect, and an inhibitor of plasma kallikrein has an analgesic effect. Along with this, hirudotherapy has a reflex mechanism of therapeutic action and is considered as one of the methods of reflexotherapy, since the attachment of medicinal leeches and subsequent bleeding serve as irritating reflex factors [55].

An important link in the complex treatment of patients with dorsopathies is reflexology, defined as a therapeutic and prophylactic system based on the activation of interrelated, presumably reflexogenic, loci by various types of physical and drug effects [4, 56, 57].

The morphological substrate of the acupuncture point (TA) is a neurovascular bundle surrounded by a mesenchymal sheath (a capsule of loose connective tissue), perforating the superficial fascia of the body or emerging from bone canals and penetrating directly into the skin. The therapeutic mechanisms of reflexology are precisely associated with the formation of a reflex response to irritation of TA, which consists of three interrelated components: local, segmental and general.

The local reaction to the action of the stimulus is usually manifested by an axonal reflex. An increase in the activity of autonomic axons, immunocompetent cells of the mesenchymal membrane and sympathetic vasomotor plexus of the vessel walls of TA with the release of biologically active substances from terminal autonomic fibers, mast and immune cells is accompanied by characteristic perivascular reactions. Excessively high activity of sympathetic nerve axons and peptidergic axons, which form a pain signal, decreases due to an increase in the activity of the parasympathetic system. Pain suppression is carried out by close interaction of terminal parasympathetic axons and immune cells of the TA mesenchymal membrane, which produce the parasympathetic neurotransmitter acetylcholine, which, in turn, inhibits the release of norepinephrine from sympathetic axons, as well as the synthesis of painful and pro-inflammatory cytokines (TNF-α, IL-1, IL-6, IL-12). At the same time, T- and B-lymphocytes increase the synthesis of anti-inflammatory opioids and endocannabioids, and as a result of the release of chemokines into the inflammation focus, other cholinergic cells are attracted, which enhance the parasympathetic effect.

The segmental response is determined by the involvement of a specific segment of the spinal cord. Note that the endings of the spinal nerve enter the neurovascular bundle of TA, the branches of which innervate the skin, muscles, internal organs, vessels, and also move into the central nervous system (somatotopic attachment). TA of the anterior and posterior median meridians contain processes of the spinal

nerves on both sides of the body. In the spinal cord, the spinal nerve connects to the neurons of the nonsomatotopic, acetylcholine-containing, antinociceptive interneuronal system for diffuse control of blocking pain. The latter, in response to TA stimulation, activates descending pain-inhibiting pathways and is the basis of the general component of the reflexotherapy mechanism of action [58].

Contraindications to reflexology are any neoplasms and decompensated states of various organs and systems. Relative contraindications can be identified for a specific method of reflex action, or considered in the age aspect, in particular, for persons over 80 years old.

The key point that ensures the effectiveness of reflexology is an adequate choice of the method and method of exposure, as well as the combination of TA. The method reflects the treatment strategy and is a set of certain parameters (intensity, duration, severity of the intended sensations) aimed at achieving the final result. There are two main methods: inhibitory and exciting, each of which distinguishes between strong and weak subtypes. The compromise between inhibition and excitation is the harmonizing method. In the case of dorsopathies, taking into account the dominant pain syndrome, the main one is the use of the inhibitory method.

Reflexology means a specific technical reception, ensuring the implementation of the healing effects of acupuncture. Various methods of reflexology are conventionally divided into invasive (needle-like) and non-invasive (acupressure, tsubotherapy, vacuum therapy). An intermediate position according to the criterion of invasiveness is occupied by heating and cauterization of TA. Modern methods of reflexology include: pharmacopuncture, corporal and transcranial auricular electrical stimulation, laser puncture, spectral phototherapy [4, 56, 57, 59–61].

Methodically, in dorsopathies, as in general and in any pathology, a combination of local, segmental and general TA is used. At the same time, in the initial phase of treatment (the first 1-2 procedures), it is recommended to limit the choice to symmetrical common points in the distal extremities. So, in case of lumbosacral dorsopathy, the following acts as a TA of general action: P7; GI4, 10, 11; E36; RP6, 9; C3-7; IG3; V11, 40, 60, 62; R2; MC6; TR5; VB34,39,41; F2, 3; VG1, 11, 26.

As a rule, from the third procedure, segmental points in the area of the affected SMS are irritated. In the case of dorsopathy at the lumbosacral level, this is TA V21-34, 52-54; VG2-6; VC3, 4, 6, 9; VB25. In parallel, they act on local points that are painful on palpation, trigger points, as well as points localized in the muscle hypertonicity zone, while on the pain side 2/3 of the points are activated, contralateral - 1/3. Depending on the nature of the pain syndrome, TA may be included in the procedure: P5, 10; E30,32-34,39; RP2, 3; V13,17,20,36,37,56-58,65,67; R1, 3, 4, 7; MC7; TR6,8,10; VB20,21,29-31,38,40; F5, 13 [9, 59, 62–65].

Along with reflexology, homotoxicology is one of the important methods of treating dorsopathies. According to the concept developed in 1950 by H.H. Reckeweg, the disease is a biologically purposeful and purposeful protective process against the so-called. homotoxins. Any material and non-material, exogenous and endogenous pathological factor, to which the body's regulatory system is unable to adapt, can act as a homotoxin.

The resulting pathophysiological and pathomorphological changes in the body are defined as homotoxicosis. The dynamics of homotoxicosis is reflected in the table of the development of diseases, which presents a progressive displacement of symptoms (progressive vicarization) from a normal state to a malignant neoplasm, as well as the possibility of returning to a state of normality (regressive vicarization). The humoral phases are characterized by the absence of damage to the intracellular systems and the ability of the body to remove homotoxins. The excretion phase combines the symptoms of enhanced physiological elimination, the inflammation phase - accelerated elimination of homotoxins with pathological secretions. In the phases of the matrix, the excretory mechanisms of the body are overloaded. In the deposition phase, homotoxins are reversibly deposited and accumulated in the intracellular matrix (ECM), but can still be eliminated. If the body fails to excrete itself, homotoxins are irreversibly deposited on the ECM components, impregnating them, and homotoxicosis passes through the biological barrier into the impregnation phase. Cellular phases of degeneration and dedifferentiation are characterized by damage to intracellular systems and regulatory blockade up to malignant neoplasm in the organ.

In the tissues of the musculoskeletal system, homotoxicosis develops in the following chronology:

1) Excretion phase - increased production of synovial and cerebrospinal liquids.

2) The phase of inflammation - osteomyelitis, arthritis, synovitis, tendonitis, myositis.

3) Deposition phase - osteophyte, bone cyst, joint effusion, calcified humeral scapular periarthropathy, myogelosis.

4) The phase of impregnation - osteomalacia, herniated disc, chronic arthritis, Reiter's syndrome, autoimmune polymyositis.

5) Degeneration phase - osteoporosis, osteochondrosis, ankylosing spondylitis, Forestier syndrome, arthrosis, ligamentosis, Dupuytren's contracture, tendinosis, muscular dystrophy.

6) The phase of dedifferentiation - osteosarcoma, chondrosarcoma,

myosarcoma. From the standpoint of homotoxicology, the main task of treating the disease is to achieve the phenomenon of regressive vicarization. Three principal areas can be distinguished here: detoxification and drainage (binding and elimination of homotoxins), stimulation of immunological sanogenetic reactions, and support of organ functions.

Antihomotoxic drugs are a special form of complex homeopathic remedies. Their components, in accordance with

origin and principles of action, are combined into the following groups: reactionary, organotropic, suis-organ components, nosodes, catalysts and potentiated allopathic agents. Such a composition provides the activation of the functions of the reticuloendothelial system, the anterior pituitary gland, the adrenal cortex, liver and connective tissue.

One of the mechanisms of action of antihomotoxic agents is a nonspecific immunological auxiliary reaction - the achievement of immunological tolerance with small amounts of substances. In the process of proteolytic processing of low concentrations of antigens contained in the preparation, amino acid motifs are synthesized on the surface of macrophages, which cause the differentiation of T-lymphocytes into key cells of peripheral immune mechanisms - regulatory Th3-lymphocytes. In turn, the clones of Th3 lymphocytes formed in the lymph nodes spread throughout the body and, after contact with proinflammatory Th1 lymphocytes and Th2 lymphocytes, release the cytokines TGF-β, IL-4, IL-10, which inhibit the inflammatory response. Thus, the functioning and ability to divide in Th1 and Th2 cells is inhibited, and upon reaching an equilibrium between pro- and anti-inflammatory cytokines, Th3 lymphocytes gradually lose their activity. These drugs also have a specific protective effect on a specific organ within the framework of holistic immunoregulation [2, 58, 65, 66].

For dorsopathies, Discus compositum, Traumeel S, Zel T, Placenta compositum, Cerebrum compositum, Coenzyme compositum and Ubiquinone compositum are used [57, 62, 64, 67–72].

Discus compositum is a suis-organ drug directly indicated for inflammatory and dystrophic diseases of the musculoskeletal system and positioned as a means of their pathogenetic therapy. The expediency and high efficiency of the inclusion of the drug in the complex treatment of patients with manifestations of osteochondrosis of the lumbar spine at all stages of treatment has been established [73].

The preparation contains 37 components, including those from pig organs, acting as homologous stimuli and having a targeted effect on the affected human organs. Understanding the action of suis-organ components is associated with the name of G. Blobel, who was awarded the 1999 Nobel Prize in Medicine and Physiology. The implementation of the organotropic mechanism of biomolecules discovered by him is based on the specific labeling of proteins and other biomolecules in the process of their synthesis with a preformed signal peptide (Zip code). The signal peptide and specialized receptors that read the Zip code regulate the transport, localization, and function of biomolecules, determining their organ or tissue identity and specificity. Most biomolecules, possessing organo- and tissue-specificity, do not differ in species specificity.

Discus compositum also contains the organotropic components shown

for use in the pathology of the musculoskeletal system, reaction components aimed at enhancing the action of other components, and a group of catalysts.

Traumeel S is a multilevel regulator of the inflammatory process that stimulates the synthesis of anti-inflammatory cytokines TGF-β, IL-10 in Th3 lymphocytes and inhibits the secretion of pro-inflammatory cytokines TNF-α, IL-1β, IL-6, IL-8. In addition, the drug has analgesic, antihemorrhagic, venotonic, decongestant, antibacterial and antiviral effects. Traumeel S is a safe alternative to NSAIDs, especially for patients at risk of their side effects [75–78].

Target T is a suis-organ chondroprotector that realizes effects through the phenomenon of homology and an auxiliary immunological response with a predominant inhibition of the secretion of IL-1β, which has a catabolic effect on chondrocytes, and IL-6, which plays a role in the development of chronic inflammation. Chondroprotective effect is manifested in response to prolonged use; with a short course, the analgesic and anti-inflammatory effect of the drug is more marked [79–81].

Placenta compositum is a suis-organ activator of peripheral circulation with venotonic, antispastic and antisclerotic action. In case of pre-spasms, the drug has an analgesic effect, promotes a rapid regression of muscle-tonic, static-dynamic and neurovascular disorders [82].

For the purpose of correction neurotic violations, accompanying chronic pain syndrome, the use of the suis-organ drug Cerebrum compositum is justified. The drug has shown therapeutic compliance with depression, asthenic symptoms, and autonomic dysfunction [83, 84].

Coenzyme compositum and Ubiquinone compositum are catalysts indicated for chronic diseases in cellular phases. Usually these drugs are prescribed together, alternating them [85, 86].

The integrating method with respect to To reflexology and pharmacotherapy is pharmacopuncture. The mechanism of action of the method is due to the summation of the therapeutic effects of both reflexotherapy itself and the injected drug. Stimulation of acupuncture points occurs with long-term maintenance of reflex and humoral reactions in combination with the targeted action of the drug deposited at the injection sites. Pharmacopuncture involves the use of various drugs, but it is antihomotoxic drugs that provide a clear therapeutic result. In other words, the existence of subtle mechanisms of interaction between TA and an antihomotoxic agent is assumed.

Technically, the procedure consists in subcutaneous or intradermal injection of 0.3–0.5 ml of the drug into the area of 4–8 points. An original method of sequential administration of the drug intradermally and then subcutaneously has been developed. The choice of points for pharmacopuncture is determined by the same rules for reflexology. At the same time, the effectiveness of

pharmacopuncture of complex homeopathic preparations for dorsopathies [2, 4, 9, 10, 57, 64, 69, 71, 73, 80, 82].

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