



THE ROLE OF PREPARATIONS PREPARED FROM PLANTS IN THE PREVENTION OF DISEASES OF THE MUSCULOSKELETAL SYSTEM

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<https://doi.org/10.5281/zenodo.14136132>

ARTICLE INFO

Received: 06th November 2024

Accepted: 12th November 2024

Online: 13th November 2024

KEYWORDS

Musculoskeletal system,
musculoskeletal system, sprains,
dislocation, thyroid and
parathyroid glands.

ABSTRACT

Musculoskeletal disorders and diseases are more than 150 health disorders affecting the musculoskeletal system. They vary widely: from acute and short-term phenomena - fractures, sprains and dislocations - to lifelong disorders accompanied by a constant decrease in functional capabilities and disability. Musculoskeletal disorders and diseases are usually characterized by pain (often permanent), decreased mobility, deterioration of motor skills and functional capabilities in general, which limits a person's ability to work.

РОЛЬ ПРЕПАРАТОВ ИЗ РАСТЕНИЙ В ПРОФИЛАКТИКЕ ЗАБОЛЕВАНИЙ ОПОРНО-ДВИГАТЕЛЬНОГО АППАРАТА

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<https://doi.org/10.5281/zenodo.14136132>

ARTICLE INFO

Received: 06th November 2024

Accepted: 12th November 2024

Online: 13th November 2024

KEYWORDS

Опорно-двигательный
аппарат, опорно-
двигательный аппарат,
растяжения, вывихи,
щитовидная и
паращитовидные железы.

ABSTRACT

Нарушения и заболевания опорно-двигательного аппарата — это более 150 нарушений здоровья, поражающих опорно-двигательный аппарат. Они широко варьируются: от острых и кратковременных явлений — переломов, растяжений и вывихов — до пожизненных нарушений, сопровождающихся постоянным снижением функциональных возможностей и инвалидизацией. Нарушения и заболевания опорно-двигательного аппарата обычно характеризуются болью (часто постоянной), снижением подвижности, ухудшением двигательных навыков и функциональных возможностей в целом, что ограничивает трудоспособность человека.



TAYANCH-HARAKAT TIZIMI KASALLIKLARINING OLDINI OLISHDA O'SIMLIK LARDAN TAYYORLANGAN PREPARATLARNING O'RNI

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<https://doi.org/10.5281/zenodo.14136132>

ARTICLE INFO

Received: 06th November 2024

Accepted: 12th November 2024

Online: 13th November 2024

KEYWORDS

*Tayanch-harakat tizimi,
tayanch-harakat tizimi,
burilishlar, dislokatsiyalar,
qalqonsimon va paratiroid
bezlari.*

ABSTRACT

Tayanch-harakat a'zolarining buzilishi va kasalliklari - bu tayanch-harakat tizimiga ta'sir qiluvchi 150 dan ortiq sog'liq kasalliklari. Ular sinishlar, burilishlar va dislokatsiyalar kabi o'tkir va qisqa muddatli hodisalardan tortib, funkcionallikning doimiy pasayishi va nogironlik bilan birga keladigan umrbod buzilishlargacha keng tarqalgan. Mushak-skelet tizimining buzilishi va kasalliklari odatda og'riq (ko'pincha doimiy), harakatchanlikning pasayishi, vosita qobiliyatlari va umuman funkcionallikning yomonlashishi bilan tavsiflanadi, bu esa insonning ishlash qobiliyatini cheklaydi.

Introduction. Diseases of the musculoskeletal system in the world rank 3rd among the causes of loss of working capacity, second only to diseases of the circulatory system and diseases of the respiratory system. At the same time, 42.7% of the structure of musculoskeletal diseases is occupied by spinal pathology, 25.5% - arthrosis of large joints (knee, hip) [1].

Diseases of the musculoskeletal system cause psychoemotional and physical suffering, limit physical activity and the ability to move, worsen the quality of life, and often lead to disability of patients. Treatment of these diseases is associated with significant economic costs [2,3].

There are inflammatory joint lesions (rheumatoid arthritis, reactive arthritis, etc.), metabolic-dystrophic (osteoporosis, osteoarthritis, gout), secondary (post-traumatic, in malignant diseases - cancer, hemoblastoses, etc.) and developing against the background of endocrine diseases (diabetes mellitus, diseases of the pituitary-adrenal system, thyroid and parathyroid glands) [2]. The basis of therapy for acute arthropathies in outpatient settings are non-steroidal anti-inflammatory drugs (NSAIDs) and paracetamol, glucocorticoids (GC), and in gout, colchicine and interleukin-1 (IL-1) inhibitors can be used. Chondroprotectors are also widely used. NSAIDs are a heterogeneous group of drugs that have been used in medicine for over 100 years [4]. The main mechanism of action of these drugs is considered to be the inhibition of cyclooxygenase (COX), a key enzyme in the synthesis of prostaglandins (PG) [5]. Glucocorticoids have been used for a long time to treat acute arthritis, especially when NSAIDs cannot be used [5]. The mechanisms of action of GCs are well studied and are realized through interaction with GC receptors localized in the cytoplasm of cells. As a result, there is a decrease in the expression of numerous proinflammatory genes. Side effects of GC arise mainly due to activation of genes involved in the metabolism of sugars, proteins, fats, muscle



and bone tissue and due to suppression of the hypothalamus-pituitary-adrenal axis. Hyperglycemia is relatively common, side effects from the cardiovascular system are possible, such as hypertension, dyslipidemia, and impaired fibrinolysis. [4].

Theoretical part. Medicines that belong to the group of structure-modifying drugs are often called chondroprotectors, which have a complex mechanism of action. Having affinity for cartilage, they are able to stimulate the synthesis of the cartilage matrix, inhibiting its destruction. Chondroprotectors act very slowly. They are used for a long time. To obtain a real therapeutic effect, at least 4-6 months of treatment are required, and preferably 2-3 courses during the year. Colchicine is an antimitotic alkaloid that binds to the cytoskeleton protein tubulin and inhibits the polymerization of microtubules. Disruption of the cytoskeleton assembly process leads to a number of biological effects, including an effect on intracellular transport, a decrease in the secretion of chemokines and cytokines, and suppression of cell migration and division [6]. Colchicine is most effective when starting treatment immediately after the onset of acute gouty arthritis (AGA) [7]. The efficacy and safety of colchicine in patients with other types of acute arthropathy, except for OPA, have not been adequately studied. More and more information is emerging on the therapeutic effects of various herbal preparations [3]. Phytotherapy is successfully used as a complex therapy for diseases of the musculoskeletal system, or independently for their prevention and in the remission stage. At the same time, there is information about the negative effects of some herbal components. Thus, oxalic acid can cause an exacerbation of gout. Garlic enhances the anticoagulant effect of warfarin, quercitron increases the bioavailability of cyclosporine. The dangers of uncontrolled use of herbal products are discussed in detail in a recent article by N.D. Yushchuk and G.V. Volgin [8]. Thus, herbal preparations should be used with caution, self-medication is excluded. The latest guidelines of the British Society of Rheumatologists for the treatment of gout pay special attention to the use of herbal preparations - their use is recommended only with the permission of the attending physician [7]. Medicinal plants and medicinal plant materials used to treat diseases of the musculoskeletal system 1. Marsh cinquefoil (*Comarum palustre* L.) is a perennial shrub of the Rosaceae family. Tannins predominate in the composition of biologically active substances both in the aboveground and underground parts. They have an astringent, anti-inflammatory, membrane-stabilizing, antioxidant effect. One of the leading mechanisms of anti-inflammatory action is a direct inhibitory effect on the activity of COX of arachidonic acid, as well as inhibition of free radical oxidation processes and activation of the endogenous antioxidant system of the body [9]. The pharmacological properties of flavonoids are known. Thus, quercetin has a capillary-strengthening (P-vitamin), anti-inflammatory effect. It has been experimentally established that it has antioxidant, antispasmodic activity [10].

Marsh cinquefoil also has a hemostatic, analgesic, antibacterial effect. Protoanthocyanidins have antiviral activity, contribute to increased resistance of cells to the cytopathic effect of the virus [9]. On the pharmaceutical market of the Republic of Belarus, there are preparations based on marsh cinquefoil, mainly from Russian manufacturers. The composition of 1 tablet includes marsh cinquefoil dry extract - 100 mg, ascorbic acid - 15 mg. Indications: maintaining the functions of the musculoskeletal system, an additional source of ascorbic acid, complex therapy of arthrosis, arthritis, radiculitis and other diseases of the



musculoskeletal system. Contraindications: pregnancy, lactation, individual intolerance to the components of the product. Recommendations for use: adults 1 tablet 3 times a day during meals with food. The course of treatment is 25-30 days. If necessary, the course can be repeated with a 10-day break.

Tincture "Marsh cinquefoil" - improves the functional state of the musculoskeletal system. Biologically active substances of marsh cinquefoil (tannins, flavonoids) have anti-inflammatory, bactericidal and mild analgesic effects; help relieve swelling of the joints; have a positive effect on joint and spine mobility disorders. Contraindications: individual intolerance to the components of the dietary supplement, pregnancy, breastfeeding. The Evalar company produces the medicinal product tincture of marsh cinquefoil, dietary supplement Marsh cinquefoil-Evalar in tablets, Marsh cinquefoil-Evalar cosmetic cream, herbal tea Marsh cinquefoil in filter bags and in bulk packs. Herbal preparations in any form of release are not recommended for use in case of individual intolerance to the components, during pregnancy and breastfeeding. Despite the fact that they are dispensed without a prescription, it is recommended to consult a doctor before use [6].

2. Chaga (Chaga) or birch mushroom (Fungus betulinus) according to botanical classification - tinder fungus - *Inonotus obliquus* (Fr.) Pil; family Polyporaceae or Hymenochaete (Gymenochaetaceae, type Basidiomycetes). Chaga is a product of the sterile stage of life of a wood-destroying fungus that parasitizes on the trunks of living trees, mainly on birch (less often on alder, rowan, bird cherry). Birch mushroom chaga is used as a tonic and anti-inflammatory agent. It is used in the treatment of gastrointestinal diseases of ulcerative etiology, as well as to eliminate symptoms in tumors of various localizations, helps to increase the body's defenses, affecting metabolic processes, promotes the mobilization of defense mechanisms suppressed under the influence of diseases [7]. Preparations based on chaga have a wide range of biological activity. They have high antitoxic, radioprotective, immunomodulatory, genoprotective, adaptogenic, antiviral, antioxidant properties, regulate the activity of blood enzymes, as well as the activity of the cardiac, nervous and respiratory systems of a living organism [8].

In pharmacy and medicine, chaga is used primarily as a medicinal raw material and galenic preparations, as well as in transdermal therapeutic systems (TTS), tablet forms and dietary supplements. Dietary supplements with chaga are presented in the form of dragees, capsules, tablets, extracts and other forms convenient for administration. They are good auxiliary means in addition to traditional food products, contribute to the rapid elimination of almost any deficiency of vitamins and microelements. The most popular and widely used drugs based on chaga are raw chaga mushroom, galenic preparations "Befungin" and "Chaga Tincture". These are modern drugs for the prevention and correction of free-radical pathologies. They are widely represented on the modern pharmaceutical market and are traditionally used in medical practice of both traditional and official medicine [8]. In diseases of the musculoskeletal system, soft medicinal forms with biologically active compositions of chaga are of the greatest interest: creams and ointments [7]. The following collections are recommended for diseases of the musculoskeletal system. Herbal collection "Fitosustavin" (healthy joints). Composition: grass and roots of marsh cinquefoil, root of large burdock, leaf of silver birch, root of medicinal angelica, leaf of black currant, grass of three-part succession,



grass horsetail, stinging nettle, Scots pine buds. It is used as a natural remedy to improve the functional state of the musculoskeletal system in arthritis, including rheumatic polyarthritis, arthrosis, osteochondrosis, etc., with increased loads and the consequences of injuries. Improves microcirculation in the joints, reduces their inflammation, promotes the removal of salts. Contraindications: individual intolerance to the components of the collection, pregnancy, lactation.

Conclusion. Herbal collection "Alfit-7" for the prevention of osteochondrosis and joint diseases. Morning composition: marsh cinquefoil, bearberry, chamomile, oregano, creeping thyme (savory). Evening composition: marsh cinquefoil, bearberry, chamomile, creeping thyme, motherwort, oregano. Main indications: Osteochondrosis of the spine. Arthrosis-arthritis. Rheumatoid polyarthritis. Rheumatic joint disease. Contraindications: Individual intolerance.

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