

Therapeutic efficacy of the combined use of peloid and argillotherapy in
the rehabilitation treatment of patients with lesions
organs of the musculoskeletal system

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Therapeutic efficiency of peloido- and argillotherapy in complex restorative treatment
of musculoskeletal system

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RESUME

There is an increasing number of patients with lesions of the musculoskeletal system. Variety of clinical variants of pathology of musculoskeletal system determines the search for new non-standard treatments. Application of non medicinal correction methods based on natural factors, including - peloid and argillotherapy improves the course of restorative treatment.

Keywords: pathology of the musculoskeletal system, peloids, clay.

SUMMARY

Recently, there has been an increase in the number of patients with lesions of the organs of the musculoskeletal system. The variety of clinical variants of pathology of the musculoskeletal system determines the search for new non-standard methods of treatment. The use of non-medicinal methods of correction based on natural natural factors, including peloid and argillotherapy, increases the effectiveness of the course of rehabilitation treatment.

Key words: pathology of the organs of support and movement, peloids, clays.

Diseases and injuries of the musculoskeletal system are one of the most common pathologies of the musculoskeletal system. Against the background of an increase in life expectancy, this problem is of particular importance, since, according to epidemiological studies, joint pathology in persons over 40 is determined in 50%, and after 70 years - in 90% of cases. In Russia, diseases and consequences of injuries causing joint damage were noted on average in 9.5 out of 1000 people [4].

Currently, about 100 different forms of joint diseases or pathological processes, including those associated with injuries, have been described: diffuse diseases of connective tissue, inflammatory and dystrophic genesis, leading to restriction of movement in the joints, dysfunction of adaptive systems, imbalance of the cellular and humoral links of immunity etc. [5]. Extensive drug correction contributes to positive dynamics, but at the same time, the proportion of

established contraindications and side effects. A minimum of time is allocated for preventive preventive measures for diseases of the musculoskeletal system, which provides for the rational construction and organization of a healthy life, conditions and regime of work and rest, regular physical education and sports, hardening. Secondary prevention measures include the appointment of therapeutic and restorative therapy in order to anticipate exacerbations and progression of existing disorders: courses of drug therapy, dosed motor loads, massage, physical apparatus treatment [6, 11].

A particular relevance and social focus V the course restorative measures in pathology of the musculoskeletal system are occupied by methods based on the use of natural therapeutic factors: climatic, balneo- and mud therapy [7].

Mud therapy or peloid therapy is a method of treatment based on therapeutic mud. The optimal prescription of mud therapy potentiates the action of drugs, inhibits the progression of the disease and stimulates the formation of a number of local and general reactions, manifested in the form of analgesic, anti-inflammatory, desensitizing and reparative-regenerative effects [11]. The techniques for applying the procedures are generally accepted and described in many literary sources [2, 12].

Recently, clay therapy or argillotherapy has been used in the therapy of pathology of the organs of the musculoskeletal system. The mechanism of the therapeutic action of argillotherapy is due to the pronounced reflex irritation of the differentiated nerve endings located in the skin. The argillotherapy method has a wide range of indications, is approved for use at any age and has practically no contraindications [9].

Gray clay (the Strelitsa deposit of Blizhnyaya Semiluksky district of the Voronezh region) has a greenish-gray color, consists mainly of kaolinite and, more rarely, montmorillonite [8]. Due to the fine granulometric composition, the hydrophilic-colloidal complex is unusually high, as a result of which, when clay is mixed with water, a stable, homogeneous, plastic mass is formed, suitable for balneo-cosmetic procedures [3].

The aim of this work was to study the therapeutic effectiveness of complex rehabilitation treatment with the inclusion of a course of peloid and argillotherapy in patients with pathology of the musculoskeletal system in a sanatorium.

Materials and methods

The study involved 118 patients with diseases of the support and movement organs, which were observed during their stay in a local health resort. In an open way, 93 women and 45 men, aged 47 to 76 years (mean age 65.8 ± 7.62), voluntarily took part in the trial. Taking into account the information of the sanatorium map, the main selection criterion was determined by the leading disease of the musculoskeletal system:

- osteochondrosis of the cervicothoracic / thoracolumbar spine with

reflex pain syndrome - 54 people. (45.8%);

- osteoarthritis of the knee joints II-III degree. - 45 people (38.1%);
- post-traumatic deformity of the joints of the foot or hand - 19 people. (16.1 %).

Concomitant pathology was represented by diseases of the gastrointestinal tract, endocrine system (diabetes mellitus II, less often type I), respiratory system and skin. It should be noted that a number of patients (20.3%) had background disorders of the cardiovascular system: angina pectoris II – III FC; hypertension II – IIIA stage; ischemic heart disease against the background of vascular atherosclerosis; varicose veins of the lower extremities.

The basic complex of rehabilitation treatment in the sanatorium included a dosed prescription of three to four methods from 8 to 10 procedures: balneotherapy (pearl / honey / pine baths; shower - massage / circular shower); aromatherapy (with orange / rosemary oil); classic massage course (every other day); drinking chloride-sulfate magnesium-calcium-sodium mineral water "Uglyanskaya" (low mineralization - 2.6-3.5 g / l). The volume of motor and physical activity included a gentle and gentle training regimen, a course of remedial gymnastics according to the "Diseases of the organs of movement" method.

Three groups of 40 patients in the first and second groups, comparable in terms of clinical and functional characteristics, were formed by the method of simple randomization, and 38 patients were in the third "control" group:

- 40 patients of the first group, the main complex of therapeutic measures supplemented with mud procedures with moderately mineralized silt-sulphide peloids of the seaside type (Kizil-Tash lake deposit, Anapa resort, Krasnodar Territory) [2];

- 40 patients of the second group to the complex of rehabilitation therapy included procedures based on sulfur clay (deposit of Latnoe, Semiluksky district, Voronezh region).

The test results at the Federal State Institution "Center for Sanitary and Epidemiological Supervision in the Voronezh Region" testified to the sanitary-epidemiological, radiological and toxicological safety of sulfur clay. The balneological conclusion of the Russian Scientific Center for Restorative Medicine and Balneology from 2005 on the clays (gray) of the Latnenskoye deposit of the Voronezh region determined the medical indications for clay therapy: diseases of the support and movement organs, respiration, digestion, skin, etc. Approved methods of dispensing procedures in the form of applications (local and general), compresses (warm and cold) [3].

In accordance with medical indications, the course of peloid and argill treatment was performed according to the method of "local compresses" (layer thickness of 2-3 cm), at 34 ° C with an increase to 38 ° C for 15-20 minutes, from 9-10 procedures, after a day for diseases of the organs of movement: in the area of the affected joints (knee, ankle, elbow); on the wrist - "gloves"; on the foot - "socks"; along the spine.

During the observation, twice: before and after treatment, the parameters of the biochemical blood test (total protein, alkaline phosphatase, B-

lipoproteins, seromucoids). The antibodies of the primary immune response were determined: immunoglobulins A, M, G (according to generally accepted methods).

The immediate results of treatment were assessed by the on criteria effectiveness of spa treatment: improvement, positive effect, absence deterioration [13].

Checking the Normality of the Distribution quantitative signs was carried out using the Kolmogorov-Smirnov criterion. When testing statistical hypotheses, the presence of significance was determined at a value of $p < 0.05$. Software: statistical analysis package "SPSS-13" for Windows.

Results and discussion

Upon admission to the sanatorium, 98% of patients presented complaints of pain or pain of various localization typical of the pathology of the support and movement organs. Most of all worried about "aching", continuous, often intense pain in the affected joints or back, aggravated at night and after physical exertion. Most of the patients presented from 2 to 5 complaints (Table 1).

Table 1

The main clinical signs in patients

Группа	1 группа (40)		2 группа (40)		3 группа (38)		Итого (118)	
	до лечения	после лечения	до лечения	после лечения	до лечения	после лечения	до лечения	после лечения
Боли в области суставов:	38	21	38	19*	34	26	110	66
- кистевые	6	4	8	5	7	5	21	14
- коленные	27	13*	26	12*	25	19	78	44
- голеностопные	3	2	3	1*	2	2	8	5
- фаланги (рук/стоп)	2	2	1	1	-	-	3	3
Боли в области спины:	38	19*	38	21	35	24	111	64
- по задней поверхности шеи	17	7*	13	10	14	9	44	26
- в межлопаточной области	16	10	21	9*	19	13	56	32
- в поясничной области	5	2*	4	2*	2	2	11	6
Итого:	76	40	76	40	69	50	221	130

Примечание: * $p \leq 0,05$.

The results of laboratory tests of the study of biochemical blood analysis before the start of treatment in all groups corresponded to age-related changes in the basal metabolic rate in elderly people.

Dysfunction of humoral immunoglobulins was recorded in almost all examined patients. Among a significant part of the patients, a decrease to the lower limit of the norm in the concentration of immunoglobulins was revealed: IgA in 67.8% of cases and / or IgG in 71.2% of cases. Such changes were probably indicative of

stock subacute infectious and inflammatory hearth. Enhancement IgA concentrations were recorded in 11% of cases and all three immunoglobulins G, A and M in 17.8% of cases, which, most likely, was a pathognomonic sign of the autoimmune nature of the disease.

Observation of all patients in the course of rehabilitation treatment showed that the majority of patients tolerated the procedures satisfactorily. Age characteristics, the combination of the main and background pathology contributed to the fact that at the initial stage of treatment (2-3-4 procedures), some patients noted symptoms that characterize the state of "balneoreaction". There was a slight deterioration in health, increased pain, especially in the affected joints, increased blood pressure relative to the initial values, palpitations and sleep disturbances were noted. So, in the first group, signs of "balneoreaction" were found in 8 patients (20%), in the second group - in 5 (12.5%) and in the third group - 6 patients (15.8%). Correction of the main course of treatment was not carried out,

According to the results of the treatment measures carried out, most of the observed noted a significant decrease in the total number of complaints. A pronounced and statistically significant regression of the number of clinical signs (complaints) was established among patients who received procedures with silt peloids and procedures with clays in the complex of rehabilitation treatment ($p < 0.05$).

The parameters of double laboratory tests after treatment confirmed in dynamics the positive effect that was formed as a result of the inclusion of mud and clay procedures in the course of rehabilitation therapy. The indicators of biochemical blood tests in dynamics characterized the duration and features of the course of chronic pathology in this category of patients. Based on the results of the complexes of basic therapy in combination with silt peloids and clay-based procedures, there was a significant and significant tendency to equalize the concentration of Ig A and IgG ($p < 0.05$) (Table 2).

table 2

Dynamics of immunoglobulin indices in patients taking into account therapy

Группа	1 группа (40)		2 группа (40)		3 группа (38)		Итого (118)	
	до лечения	после лечения	до лечения	после лечения	до лечения	после лечения	до лечения	после лечения
Ig A	38	16*	36	14*	29	21	103	51*
Ig M	3	—	—	—	—	2	3	2
IgG	37	12*	37	17*	31	18	105	47*

Примечание: * $p < 0,05$.

Comparative assessment of the results of clinical and laboratory tests in dynamics according to 12-14 criteria of effectiveness out of 20 in 97 patients (82.2%) corresponded to the wording "improvement" [13]. In 21 people (1.8%), positive changes were determined according to 6-8 criteria (<45%), which became the basis for the interpretation of the results - "no change". Therapeutic efficacy of a complex of restorative measures in combination with a course

Peloid therapy with sulfide silts and the course of argillotherapy based on sulfur clay was 85%, while in the patients of the control group, without the inclusion of procedures with mud and clay, it reached 75%.

Thus, a comparative analysis of the results of the treatment measures carried out in patients with diseases of the organs of movement in the conditions of a sanatorium showed that when procedures with silt peloids and sulfur clay are included in the complex of basic therapy, the effectiveness of restorative therapy significantly increases. At the same time, the level of positive and statistically significant changes according to the main criteria after a course of peloid therapy is similar to the final results after a course of clay therapy.

conclusions

1. Combination of restorative treatment with clay-based treatments sulfur has a beneficial effect on the main signs of pathology in patients with diseases of the organs of movement.
2. High efficiency of restorative treatment with the inclusion of clay procedures will help to reduce the level of disability in patients with pathology of the support and movement organs and reduce the cost of their treatment.
3. As a result of the effectiveness proven in this study, the method clay treatment using clays of the Latnenskoye deposit needs further in-depth study.

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Kovalenko, N.M. Therapeutic efficacy of the combined use of peloid and argillotherapy in the rehabilitation treatment of patients with lesions of the organs of the musculoskeletal system. Kovalenko // Traditional medicine. - 2011. - No. 2 (25). - S.46-49.

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