

Medical rehabilitation using electropunctural diagnostic methods
(electropuncture vegetative resonance test) and bioresonance therapy.

Analytical overview

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Medical rehabilitation with use of electropunctural diagnostics (electropunctural vegetative resonance test) and bioresonance therapy. Analytic review

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RESUME

Results of application of electropunctural diagnostics (electropunctural vegetative resonance test) and treatment (bioresonance therapy) at medical stage of rehabilitation are presented. Diagnostic efficiency of vegetative resonance test in evaluation of functional condition of bronchi-lung system, patients with open angle glaucoma, psychovegetative dysfunction and determination of human organism functional reserves is presented. Bioresonance therapy showed good results in neurologic practice in arresting asthenoneurotic syndromes, vertebrogenic pathology with pain syndrome, in complex rehabilitation treatment of open angle glaucoma and visual nerve atrophy as well as diseases of locomotor system and raising physical workability.

Keywords: excessive body weight, obesity, neuropsychology, patopsychology, psychosomatic, endocrine disturbances, bioresonance therapy.

SUMMARY

The analytical wagon train presents the results of the application of diagnostic methods (electropunctural vegetative resonance test) and treatment (bioresonance therapy) at the medical stage of rehabilitation measures. The diagnostic efficiency of autonomic resonance testing in assessing the functional state of the bronchopulmonary system, patients with open-angle glaucoma, as well as psychovegetative dysfunctions and determining the functional reserves of the body is shown. Bioresonance therapy has positively proved itself in neurological practice in the relief of astheno-neurotic syndromes, vertebrogenic pathologies with pain syndrome, in the complex of rehabilitation treatment for open-angle glaucoma and optic nerve atrophy, as well as in diseases of the musculoskeletal system and increased physical performance.

Key words: psychosomatics, experimental psychological examination, psychometric techniques, vegetative resonance test "IMEDIS-TEST", R. Voll's method.

Introduction

Rehabilitation is a system of interrelated medical and social measures aimed at restoring and maintaining the health and social status of a sick person [1]. There are three main components in the structure of rehabilitation: medical, professional and social. Medical rehabilitation, which is the leading component, includes therapeutic measures aimed at recovery, restoration and compensation for impaired and lost functions, as well as prevention of complications of the disease. Medical rehabilitation, which is carried out in medical organizations, involves the use of physical factors, for diagnostic or therapeutic purposes, included in the complex of non-drug therapy and other methods of traditional medicine. It should be noted,

independently and in combination with other methods of restorative treatment, both medication and physiotherapy [2].

It is generally recognized that rehabilitation measures are most effective taking into account the assessment of the medical component of the rehabilitation potential of each patient, which is not possible without the involvement of a complex of modern diagnostic methods. Rehabilitation potential, which is an integral indicator of a patient's health status, can be successfully determined using a diagnostic method based on electrical parameters of the skin - electropuncture vegetative resonance test (ART) [3]. This diagnostic method makes it possible to assess the functional reserves of the body, diagnose the state of its main functional systems and determine specific types of loads that lead to the formation of dysregulatory disorders in the body and the development of the disease.

Considering the therapeutic possibilities of traditional medicine methods, one cannot but dwell on the positively proven method of bioresonance therapy (BRT) [4]. The BRT method is based on the treatment of the body's own electromagnetic oscillations, which is the method of treatment that has a normalizing effect on the control functions of the body, which makes it possible to achieve impressive success in the treatment of many diseases, including functional disorders.

Vegetative resonance test

In recent years, ART has been considered as one of the methods for a comprehensive assessment of the state of human health, which, in comparison with other methods of electropuncture diagnostics, is characterized by high diagnostic efficiency and reliability, along with the required sensitivity, specificity and accuracy [5].

In the most complete study, the assessment of the diagnostic information content of the ART method was carried out based on the results of a survey of 70 people: 43 men and 27 women of different age groups, the total number of measurements was 1677 [6]. Diagnostics was carried out using generally accepted methods, and at the time of ART measurements, a clinical diagnosis was established in all patients. According to the test results, the coincidence with the anamnesis and clinical data was at 1534 measurements, true positive test results were noted in 979 measurements, false-positive test results - in 96 measurements, false-negative test results - in 47 dimensions and, finally, true negative results testing - in 555 dimensions. In this way,

Broncho-pulmonary system

A comprehensive assessment of the functional state of the bronchopulmonary system and the general adaptive reserves of the body was considered from the standpoint of a comparative study of the adaptive reserves of the body and the severity of chronic obstructive pulmonary disease [7, 8]. In addition to ART, the examination procedure included X-ray examinations of the chest, fibrobronchoscopy, and nonspecific adaptive reactions were assessed by the leukocyte blood count based on the method of L.Kh. Garkavi, M.A. Ukolova and E.B. Kvakina. Assessment of the functional state of the bronchopulmonary system in patients with chronic obstructive pulmonary disease using ART and analysis of the capabilities of this method were carried out on 123 subjects, including 102 people with chronic obstructive pulmonary disease. The comparison group consisted of 21 people, who did not have broncho-pulmonary pathology [8]. When determining the state of the broncho-pulmonary system using ART, a minimum set of test indicators was used. The research results were statistically processed using the parametric Student and Pearson tests, as well as the Spearman's rank correlation coefficient. The results obtained allowed us to single out as the main test indicators for the diagnosis of chronic obstructive pulmonary disease by the ART method - organopreparation of the bronchi and lungs, indicators of chronic inflammation.

The results obtained from the studies made it possible to recommend ART as an objective method for assessing the body's adaptation reserves and the severity of chronic

obstructive pulmonary disease.

Ophthalmology

The use of the ART method in ophthalmology was reduced to a preventive screening examination for glaucoma and the choice of an individual approach to the subsequent treatment tactics. The diagnostic capabilities of the ART method at the first stage were studied when examining 78 patients for the detection of primary open-angle glaucoma, which ranks first in the structure of eye disability in our country [9]. Comparison of the diagnostic efficiency of the tonometric method and the ART method was carried out in the process of prophylactic examination for glaucoma in 597 people aged 58 to 70 years. The diagnostic effectiveness of both methods was assessed by the frequency of newly diagnosed primary open-angle glaucoma. In case of suspicion of glaucoma, according to both methods (tonometric and ART), an additional ophthalmological examination was carried out in accordance with existing standards. The results of the examination showed that the detection rate of primary open-angle glaucoma during tonometric examination was 1%, and when using the ART method - 1.7%. In addition, the use of the ART method in prophylactic screening examination increases the frequency of newly diagnosed primary open-angle glaucoma by more than 1.5 times compared with applanation ophthalmotonometry. The results obtained allowed us to conclude that, in terms of diagnostic informational content, the ART method is not only not inferior to tonometric, but sometimes surpasses it. that the detection rate of primary open-angle glaucoma during tonometric examination was 1%, and when using the ART method - 1.7%. In addition, the use of the ART method in prophylactic screening examination increases the frequency of newly diagnosed primary open-angle glaucoma by more than 1.5 times compared with applanation ophthalmotonometry. The results obtained allowed us to conclude that, in terms of diagnostic informational content, the ART method is not only not inferior to tonometric, but sometimes surpasses it. that the detection rate of primary open-angle glaucoma during tonometric examination was 1%, and when using the ART method - 1.7%. In addition, the use of the ART method in prophylactic screening examination increases the frequency of newly diagnosed primary open-angle glaucoma by more than 1.5 times compared with applanation ophthalmotonometry. The results obtained allowed us to conclude that, in terms of diagnostic informational content, the ART method is not only not inferior to tonometric, but sometimes surpasses it. 5 times compared to applanation ophthalmotonometry. The results obtained allowed us to conclude that, in terms of diagnostic informational content, the ART method is not only not inferior to tonometric, but sometimes surpasses it. 5 times compared to applanation ophthalmotonometry. The results obtained allowed us to conclude that, in terms of diagnostic informational content, the ART method is not only not inferior to tonometric, but sometimes surpasses it.

Evaluation of the effectiveness of the ART method in the selection of local antihypertensive ophthalmic drugs for the treatment of patients with primary open-angle glaucoma was carried out on 82 patients with various stages of the disease at the age from 31 to 86 years [10]. Instillation of eye drops with antihypertensive drugs was prescribed according to the results of ART to determine individual efficacy. After prescribing one drug or a combination of 2 drugs, the level of intraocular pressure was monitored for 3 months. The results of tonometric examination showed a significant decrease in the level of intraocular pressure in all patients after the use of drugs, the individual effectiveness of which was matched using the ART method. In this way, The study revealed the expediency of using the ART method in the individual selection of the most effective local antihypertensive drug or their combination in patients with primary open-angle glaucoma. In addition, the use of the ART method eliminates the possible risk of developing side complications of an allergic or general somatic nature in patients, as well as the need to use the tonometry method when determining the level of intraocular pressure, which significantly reduces the duration of the examination to an average of 10 minutes.

Psychovegetative dysfunctions and functional reserves of the body

As one of the research methods aimed at identifying objective diagnostic criteria for autonomic dysfunctions, ART was used to identify mental and psycho-vegetative loads. Autonomic disorders, not identified and corrected in a timely manner, lead to lengthening the terms of restorative correction and a decrease in the rehabilitation potential, thereby lengthening the terms of patients' rehabilitation. In a series of studies of combined apparatus biofeedback and physiotherapy methods for restorative correction of autonomic dysfunctions, the ART method was used to assess the state of autonomic regulation, adaptation reserves, mental stress, autonomic burden, psychovegetative stress and functional reserves of the body [11-15].

To assess the clinical efficacy of the combined hardware biocontrol and physiotherapy methods for the rehabilitation correction of autonomic dysfunctions in servicemen, ART was used in combination with other diagnostic methods [11]. Rehabilitation treatment was carried out by 75 servicemen aged 22 to 55, who were divided into the main group (50 people) and the control group (25 people). Patients of the main group, depending on the clinical variant of autonomic disorders, received complex physiotherapeutic treatment, which was combined with sessions of apparatus biofeedback with electromyographic biofeedback and trainings on frequency control

heart rate. The results of effectiveness were determined on the basis of their dynamics of clinical symptoms, electrocardiographic indicators, general and biochemical blood tests, general nonspecific adaptive response (Garkavi-Kvakina-Ukolova index), questionnaires, and the state of autonomic regulation - using ART. The results obtained according to ART data showed that at the beginning of the course of treatment, 71.0% of patients in the main group had a tension of the autonomic nervous system, which after the end of treatment decreased to 36.6%. A statistically significant increase in the level of adaptation reserves increased from 16.1 to 34.3% compared with the control group of patients.

The diagnosis of a specific form of autonomic dysfunction, which is necessary for the choice of an individual therapeutic complex in the process of medical rehabilitation of patients with pathology of the musculoskeletal system, was carried out using the ART method [15]. The assessment of the psycho-vegetative status was carried out with the identification of mental and psycho-vegetative loads in 195 liquidators of technogenic disasters (111 men and 39 women) with an average age of 39.8 ± 0.5 years. With the help of ART, the peculiarities of the psycho-vegetative status were determined in the surveyed contingent of patients. Thus, for the asthenic-vegetative form, the predominance of psycho-vegetative loads was established against the background of an average and good level of functional reserves. In the case of the asthenic-cephalgic form, the predominance of mental stress and vegetative burden against the background of average and good levels of functional reserves.

The ART method was used for the integral assessment of the state of the body and the functioning of organs and systems in pregnant women of risk groups at the sanatorium stage of rehabilitation during their treatment with transcranial electrical stimulation [16]. 1556 pregnant women of risk groups with an average age of 27.8 years with various obstetric and extragenital pathologies were examined, from which two groups were formed: main and comparison. The results of ART examination at admission showed that in both groups more than 95% of women had dysregulation of the peripheral functions and 86.2% of the central nervous system. The function of the autonomic nervous system was increased in more than 79% and decreased in 11% of pregnant women. As a result of the treatment, according to ART data, in the main group, there was a decrease in increased autonomic reactivity by 48.2%, while in the comparison group - only by 23.7%. Indicators of the state of the peripheral nervous system according to ART data: improvement in the main group by 70.6%, in the comparison group - by 51.2%.

The ART method was used to assess the functional state and the potential for the formation of somatic pathology in those working under the influence of unfavorable factors of the working environment, one of which was electromagnetic radiation [17]. The survey involved 44 people aged 28 to 65 years, who complained of increased emotionality, mood swings, anxiety, fatigue and impaired falling asleep. In addition, there were indications of diseases of the cardiovascular and musculoskeletal system, organs of the gastrointestinal tract, ENT organs, a tendency to allergies, changes in the organs of vision and age-related changes in the genitourinary sphere. The diagnostic results during the very first testing by the ART method showed that in 36% of the examined persons, electromagnetic, 9% - geopathogenic and 13% - radioactive load. Further diagnostics using the ART method showed that 47% of the examined had diseases of the cardiovascular system, of which 27% had hypertension, and 20% had heart disease. Disorders of the musculoskeletal system, which were accompanied by symptoms of osteochondrosis, were diagnosed in 90%, and joint diseases - in 18%. On the part of the gastrointestinal tract, disorders were detected in 100% of the examined, of which dysbiosis - in 54%, gastritis - in 23%, pancreatitis - in 23%. Changes in the ENT organs were noted in the form of chronic rhinitis in 13%, sinusitis - 36% and tonsillitis - 23%, only in 72% of the subjects. Thus, it has been shown that the use of the ART method is very effective for the diagnosis of those pathological conditions, which, during a preliminary survey, are not detected in the surveyed workers due to their lack of manifestation and / or the absence of subjective complaints. In conclusion, it is summarized that the diagnostic accuracy, which was obtained using the ART method, averages 85%,

which proves its high diagnostic efficiency.

Bioresonance therapy

In the total volume of therapeutic measures of medical rehabilitation, physiotherapy, which is focused on the use of physical factors for therapeutic, prophylactic and rehabilitation purposes, occupies about 50–70% [18]. Due to the fact that both endogenous and exogenous BRT are based on the action of physical factors, it seems appropriate to compare BRT with the main therapeutic methods of physiotherapy. Recently, such an analysis was performed (Table 1) and showed that, in comparison with other methods used in physiotherapy, BRT has an overall effectiveness of about 70%, with an objective clinical positivity of 35% with the frequency of procedures per course of treatment from 4 to 10. which is a good indicator [19].

Table 1

Quantitative and qualitative characteristics of the most common rehabilitation physiotherapy technologies. According to [19]

Методы физиотерапии	Частота процедур на курс лечения		Общая результативность, %			Клиническая позитивность, %	
	мини-мальная	макси-мальная	улучшение, выздоровление	без перемен	ухудшение	объективная	субъективная
Электролечение	4–6	10–20	65	34	1	34	31
Светотепловая физиотерапия	4–5	7–30	52	47	1	27	25
Массаж	5–6	10–15	71	27	2	36	35
Гирудотерапия	2–4	4–5	80	19	1	52	28
Ингаляции	5–6	10–30	50	49	1	20	30
Ультразвук	1–2	3–7	53	46	1	22	31
Магнитотерапия	2–4	5–10	64	35	1	38	26
Биорезонансная терапия	4–6	7–10	70	28	2	35	35
Лазерная терапия	1–2	3–5	68	31	1	57	11
Грязеволечение	5–6	12–30	54	45	1	33	21
Баротерапия	1–2	3–5	72	27	1	31	41

The high therapeutic efficacy of BRT is also supported by an assessment carried out in a number of studies in the period from 1998 to 2011. using modern methodological requirements for the reliability of clinical research [20–23]. The first randomized study was performed on 20 patients with functional gastrointestinal diseases, of which 10 were the placebo group, and 10 - the BRT group [20]. Patient complaints about the intensity and frequency of complaints, the results of medical examinations and clinical laboratory tests were assessed. In the group of patients with BRT, a significant reduction in pain and a decrease in the manifestations of flatulence was found in comparison with the placebo group, where changes in these parameters were insignificant. Another more detailed retrospective cohort study analyzed the results of 541 cases of the use of BRT in the treatment of diseases of the gastrointestinal tract, acute and chronic infections, lung diseases and autoimmune rheumatoid processes [21]. The effectiveness of BRT treatment was rated in 92.4% of cases as satisfactory to very good. In the latest more representative retrospective studies carried out over a 10-year period from 1998 to 2008, the results and effectiveness of treatment using BRT in 935 patients with allergies, infectious diseases and pain syndrome were assessed [23]. The overall assessment of the results of BRT treatment in gradations from good to satisfactory for all patients was 83.3%, in cases with allergies, the effectiveness reached 88.2%, in infectious diseases up to 96,

Neurology

In the process of treating astheno-neurotic syndrome, BRT was used in 44 patients, who mainly complained of anxiety, unmotivated fears, increased

fatigue, also neurotic insomnia and headaches [24]. Induction diagnostic programs were selected for treatment, which was obtained using the ART method, on average 85%, which proves its high diagnostic efficiency.

Bioresonance therapy

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Neurology

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The use of the BRT method for the treatment of vertebrogenic pathologies at the lumbosacral level (dorsopathies) was carried out in combination with pharmacopuncture - the introduction of chondroprotector Alflutop into acupuncture, trigger and other points [25, 26]. There were 110 patients under observation (71 women and 39 men), whose neurological examination data were compared with the results of X-ray, computed or magnetic resonance imaging. Additionally, in order to assess the state of the structures of the intervertebral disc,

Doppler ultrasound in combination with quantitative ultrasound videodensitometry of the echographic image of the disc structure, which makes it possible to determine the phases of the degenerative-dystrophic process and to carry out a comparative assessment of therapy methods in the course of treatment [26]. In the course of the study, a high efficiency of the combination of BRT and pharmacopuncture in the treatment of dorsopathies was established. The nature of changes in the parameters of ultrasound videodensitometry of intervertebral discs in the course of treatment confirmed a clear structural and modifying effect of BRT and pharmacopuncture on the tissue of the intervertebral disc.

In the process of optimizing the treatment of patients with myofascial pain syndromes at the cervical-collar level, BRT was used in combination with manual therapy [2]. In this study, all patients were divided into three randomized groups of 25 people each. In all groups, conventional drug treatment and exercise therapy were carried out, in addition to which manual therapy was used in one group, BRT in the second, and their combination in the third. When using BRT, a combined version of endogenous and exogenous therapy with fixed frequencies was used. In all groups, the treatment consisted of 10 procedures, three times a week. As a result of the studies performed, it was found that the combination of BRT and manual therapy helps to reduce the level of negative symptoms of pain syndrome,

In the correction of cerebral hemodynamics in athletes (judo wrestlers) with cervical dorsopathy, BRT was used in combination with the electropharmaceutical oscillation spectrum [27]. The studies were conducted on 37 athletes (17 men and 10 women), who were divided into three groups. The first group consisted of 15 athletes with cervical dorsopathy and chronic pain syndrome, who were treated with BRT in combination with fluctuations in the electropharmaceutical spectrum, physiotherapy and massage. In the second group of 12 athletes, only physiotherapy and massage were used, and in the third group of 10 athletes without dorsopathies, placebo was applied. There was a tendency towards improvement of cerebral hemodynamics in athletes after the combined use of BRT with fluctuations in the electropharmaceutical spectrum, which reached 87%. This combined use causes a prolonged analgesic effect, prevents exacerbation of cervical osteochondrosis as a result of the inclusion of adaptive-compensatory mechanisms.

Ophthalmology

The problem of treating primary open-angle glaucoma, which is associated with an increase in the incidence of the disease, is due to the low efficiency of pharmacological agents, which leads to the need to search for new methods of pathogenetically substantiated treatment. These methods include the BRT method, the assessment of the effectiveness of the therapeutic effect of which was carried out on 11 patients with primary glaucoma aged 54 to 72 years (5 men and 6 women) [28]. BRT treatment was carried out under constant diagnostic control by the ART method; individual BR-preparation was obtained according to the first strategy for 40 minutes. on sterile saline. The resulting BR-preparation was injected in a volume of 0.2 ml with an insulin syringe into the paraorbital acupuncture points (V1-3, PC5, TR23, E1 - 3, PN1 - 11, PC8, Ig 3), 3-4 points were used on each side. As a result of the treatment, all patients had improved visual acuity and quality, and the level of intraocular pressure was in the range of 8-14 mm Hg. Art., and before treatment - 12-18 mm. rt. Art. Progression of changes in the fundus was not found. It is recommended to include BRT in the treatment of primary open-angle glaucoma.

Treatment of patients aged 40–86 years with varying degrees of glaucomatous optic nerve atrophy was carried out using the BRT method in combination with acupuncture [29]. The main indicators characterizing the severity of the disease and the effectiveness of the treatment carried out were the study of visual acuity and field of view, biomicroscopy, and intraocular pressure. Endogenous BRT was performed in accordance with the diagnostic data and exogenous BRT at fixed frequencies by R. Voll, P. Schmidt, R. Rife and determined individually. All patients, regardless of age, noted an improvement in general well-being, a decrease in

irritability, normalization of sleep. After 5–6 BRT procedures, an improvement in vision and a decrease in visual fatigue were subjectively noted. After the end of the course of treatment, almost all patients showed an increase in visual acuity from 20 to 40% and an expansion of the field of vision. The data obtained allow us to conclude that the combination of acupuncture and BRT in the treatment of glaucomatous atrophy of the optic nerve is highly therapeutic, which indicates the prospects of using such an integrated approach.

In the course of treatment, 20 patients (main group) with optic nerve atrophy of vascular origin, BRT was used against the background of conventional treatment (drug therapy) for 10 days, 16 patients were a control group [30]. Endogenous BRT was performed in an organotropic mode, sequentially along the meridians of nervous degeneration and blood circulation with the simultaneous use of exogenous BRT. In order to activate the vascular-trophic function in the optic nerve, the electromagnetic frequencies of the programs E31, E5, E242, E199, E102 were applied in an automatic mode with the duration of each program being 2 minutes. Then, in order to create the best metabolic conditions for rhythmic excitation in the axons of the optic nerve, frequencies from the programs E67, E77, E154, E173, E386 were used. The duration of the BRT session was 20 minutes. The results of the use of BRT showed that in the patients of the main group, compared with the control group immediately after treatment, there was an increase in visual acuity by 1.3 times, an expansion of the total boundaries of the field of view by 2.1 times and an improvement in the speed indicators of intraocular hemodynamics by 1.4–1.6 times. The conclusions note that the use of BRT in the complex treatment of patients with atrophy of the optic nerve of vascular etiology is pathogenetically expedient and allows achieving high positive dynamics of visual functions and improving hemodynamic parameters.

Musculoskeletal system

The treatment of rheumatoid arthritis, which leads to disruption of the normal functioning of the musculoskeletal system (destruction, deformation and dysfunction of the joints), is based on a multidisciplinary approach based on the use of not only pharmacological, but also other methods of treatment, including one of them. BRT options - structural resonance electromagnetic therapy [31]. Evaluation of the increase in the effectiveness of complex treatment was carried out on 120 patients (88 women and 32 men) aged 18 to 66 years with a diagnosis of rheumatoid arthritis, who were divided into two groups, the main (80 people) and control (40 people). All patients of both groups received the same treatment (medication and physiotherapy), and the patients of the main group received an additional 10–12 BRT procedures, 43 minutes each. Comparative results of the treatment showed a significant advantage of using BRT in the complex treatment of patients with rheumatoid arthritis, which, in addition to the analgesic effect, also affects the activity of the inflammatory process. The studies performed give reason to recommend BRT as an auxiliary method,

Physical performance

The use of BRT in sports medicine is associated with the search for new non-drug methods aimed at increasing physical performance and the body's resistance to fatigue, as well as accelerating the recovery processes in athletes with "overtraining" syndrome [32, 33].

Study of the effectiveness of the application of BRT method for physical working capacity was carried out among rowers (cadets 17–19 years old), who were divided into two equal groups: the main and control groups of 10 people each [32]. In the main group, a course of BRT was carried out for 5 weeks, consisting of 10 procedures - one procedure after 2 days, then once every 5 days (prophylactic course). In both groups (experimental and control), a study of performance indicators was carried out according to the tests most significant for determining physical performance in rowing and sailing races. Speed endurance was measured by the results of a shuttle run 5 × 30 m, complex endurance - by the Kverg test, and power endurance

endurance - with Yukhash dough. In the course of the study, it was found that speed endurance statistically significantly improved in rowers of the main group after BRT in comparison with the control. Querg's index was initially equal in both groups and corresponded to the assessment of physical performance as "very weak". After the BRT course, the average value of this indicator in the main group improved by 14.4% to the mark "satisfactory", while in the control group there was a slight improvement - the indicator began to correspond to the mark "weak". A significant increase in strength endurance among rowers according to the Yukhash test was noted in both groups, but in the main group as a result of BRT, the increase in this indicator was higher and amounted to 12.2%, while in the control group its increase was only 3.8%.

The deviation during training from the optimal ratio between the volume and intensity of physical activity leads to the development of a syndrome of "overtraining" in highly qualified athletes, which requires the development of special methods of rehabilitation treatment. As such a method, BRT was used in combination with electrical impulse therapy in the process of rehabilitation correction of athletes with the "overtraining" syndrome [33]. 120 athletes with the syndrome of "overtraining" were observed, who were divided into 4 equal groups: the 1st group of athletes received electric pulse therapy, the 2nd group - BRT, in the 3rd group, a complex effect was used - electric pulse therapy and BRT, 4th the group was a control group and received placebo therapy. The analysis of the data obtained during the research showed that

All this is evidence of the effectiveness of the use of complex therapy, consisting of physiotherapeutic techniques and BRT, in the rehabilitation correction of athletes with the syndrome of "overtraining".

Postoperative wound healing rate

The state and timing of healing of uncomplicated linear postoperative wounds in patients operated on for atherosclerosis of the coronary arteries and heart defects with the use of exogenous BRT were studied [34]. Due to the presence of patients in the early postoperative period in the intensive care unit, BRT treatment began on the 3rd and ended on the 7th day after the operation. The duration of the BRT exposure was 5 and 15 minutes, while the "loop" magnetic therapy device was applied to the postoperative wound area. When assessing the rate of reparative processes in the area of the postoperative wound, the presence or absence of wound discharge, the elasticity of the formed postoperative scar, as well as the period of suture removal were taken into account. As control comparison groups, the state and timing of wound healing in patients were taken into account. operated on for atherosclerosis of the coronary arteries and heart defects, without the use of the BRT procedure. Assessment of the rate of healing of postoperative wounds in patients after 5-minute exposure to BRT showed no significant differences during the wound process in patients in the control group according to all clinical assessments used here. However, exposure to BRT for 15 minutes had a statistically significant effect on the rate of healing of postoperative wounds in both study groups. There was a statistically significant difference in the timing of removing sutures from wounds in patients operated on for atherosclerosis of the coronary arteries and heart defects compared with the control group. At the same time, no significant differences were found either in terms of wound discharge or in elasticity of the postoperative scar.

Gastroenterology

Study of the effectiveness of endogenous BRT in patients with sphincter of Oddi dysfunction after

cholecystectomy was performed according to the results of treatment in a hospital setting in 40 patients [35]. The patients were divided into 2 groups of 20 people each: the main group (received standard conventional therapy) and the "BRT" group (endogenous BRT was added to the conventional standard therapy). In the course of treatment, the patients of the "BRT" group compared with the main group showed a more rapid relief of the main clinical symptoms of the disease: abdominal pain syndrome, dyspeptic disorders. Thus, the use of BRT in the complex treatment of patients with sphincter of Oddi dysfunction after cholecystectomy makes it possible to accelerate the onset of clinical remission in this category of patients.

conclusions

A retrospective study and analysis of the diagnostic information content and reliability of the ART method was carried out on the basis of the results of publications given in peer-reviewed scientific medical journals. It has been substantiated that the ART method can be recommended for use as an express method for individual screening examination and monitoring of the patient's condition, as well as for differential diagnosis in clinically difficult cases, along with other examination methods, and can be performed repeatedly. A comprehensive assessment of the results of treatment of various nosological forms with the use of BRT, based on the analysis of many years of experience of doctors, indicates the effectiveness of the use of BRT in the rehabilitation of patients with various diseases and the prospects of introducing these methods into clinical practice.

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