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METHODS OF REHABILITATION OF PATIENTS WITH ARTERIAL HYPERTENSION

Resume: The article describes the differentiated program of physical rehabilitation of patients with hypertension at the polyclinic stage, and evaluates its effectiveness.

The inclusion of all elements of gymnastics in classes, the use of therapeutic swimming, autogenic training, dosed walking, therapeutic massage contributes to the normalization of heart rate, lowering blood pressure, improving general well-being and increasing physical performance of patients.

Key words: hypertension, therapeutic gymnastics, physical rehabilitation.

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МЕТОДЫ РЕАБИЛИТАЦИИ БОЛЬНЫХ С АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ

Резюме: В статье дана характеристика дифференцированной программы физической реабилитации больных гипертонической болезни на поликлиническом этапе, проведена оценка ее эффективности.

Включение в занятия всех элементов гимнастики, применение лечебного плавания, аутогенной тренировки, дозированной ходьбы, лечебного массажа способствует нормализации ЧСС, снижению

артериального давления, улучшению общего самочувствия и увеличению физической работоспособности больных.

Ключевые слова: гипертония, лечебная гимнастика, физическая реабилитация.

In the age of the scientific and tactical revolution, diseases of civilization have spread widely in the developed countries of the world. The most common diseases of the cardiovascular system and among them hypertension.

Since the second half of the twentieth century, diseases of the cardiovascular system began to take the first place among the most common diseases leading to death: coronary heart disease (CHD), angina pectoris, coronary insufficiency, myocardial infarction and stroke (Kiselev A.R., Shvartz V.A., Posnenkova O.M. et al. 2011).

Studies conducted over the past 20 years in developed countries indicate a critically high prevalence of hypertension, which is the most common disease and occurs in 20-25% of the population (among people over 65, it reaches 50% or more).

Currently, hypertension is very common, especially in older people. Different authors provide heterogeneous data on the frequency and prevalence of hypertension (15-41%).

It is established that those suffering from hypertension make up 15-36% of the adult population. High blood pressure quite often leads to disability and death. The basis of the disease is arterial hypertension.

Hypertension (hypertension) is a chronic disease affecting various body systems, characterized by an increase in blood pressure above normal, the most common disease of the cardiovascular system.

Arterial hypertension (AH) is the most important risk factor for major cardiovascular diseases - myocardial infarction and cerebral stroke, mainly determining high mortality worldwide. Up to 15 million people suffer from a brain stroke every year, 1/3 of whom die (Martirosov E.G. 2016).

The development of arterial hypertension is determined by a variety of interacting hemodynamic, neurohumoral, metabolic, as well as socio-economic factors (Chazova I.E., Mychka V.B. 2008). A condition that begins as a functional disorder in most people consistently leads to specific organ lesions in different pathogenetic ways, transforming from a risk factor into a disease (Roy B.A. 2011).

There is an increasingly pronounced tendency to the disease of older people, which causes large socio-economic losses (Lanfan K. 2009). Hypertension develops precisely in adulthood, when conditions are created for the onset of the disease (constant emotional overload, sedentary lifestyle, poor nutrition, cigarette smoking, alcohol abuse, etc.) Success in the fight against hypertension is to eliminate the factors contributing to the development of the disease. It must be remembered that hypertension is not only an increase in blood pressure, but also a whole complex of changes on the part of organs and body systems. Therefore, the rehabilitation of such patients is very relevant (Wickwire P.J. 2009).

Elevated blood pressure in developed countries is detected in 25-35% of the adult population. Hypertension (essential hypertension) is diagnosed in 90-95% of cases of all arterial hypertension, the remaining 5-10% are symptomatic hypertension. The importance of elevated blood pressure as a risk factor for cardiovascular diseases is confirmed by epidemiological studies. In people with diastolic blood pressure of 105 mm Hg, the risk of stroke is 10 times higher, coronary heart disease is 5 times higher than with diastolic blood pressure of 76 mm Hg. The risk of developing cardiovascular lesions increases significantly when arterial hypertension is combined with other factors: smoking, hypercholesterol, diabetes mellitus. About 50% of mortality from cardiovascular diseases is due to arterial hypertension (Martirosov E.G. 2016).

Arterial hypertension is the most important factor of disability and mortality of the adult population. It is this circumstance that determines the great

attention paid by the world medical science to the study of the causes and consequences of increased blood pressure, the development of measures for the prevention and treatment of this disease. The modern approach in the treatment of hypertension is based on the introduction of drugs that reduce blood pressure. However, any drug is a chemical substance that can give various reactions in the body and is potentially dangerous to health (Drapkina O. M. 2017).

The problems of treatment, rehabilitation and prevention of hypertension are constantly in the focus of attention of therapists, cardiologists, psychotherapists and other specialists of health authorities and therapeutic physical culture. Physical rehabilitation occupies a significant place in the treatment of this disease (Epifanov V.A. 2014).

Treatment of hypertension begins with drug therapy and only when blood pressure decreases, physical methods of treatment are used.

Physical rehabilitation for hypertension has a large arsenal of means of active influence on the functional systems of the body of patients: physical therapy, occupational therapy, therapeutic massage, physiotherapy. Timely measures of adequate activation of patients with the help of dosed physical loads that affect the cardiovascular, respiratory system, promote training and strengthen the circulatory organs, which in turn contributes to increased tolerance to physical activity, and thereby restores the physical performance of patients with hypertension (Makarova I.N. 2010).

It must be remembered that hypertension is not only an increase in blood pressure, but also a whole complex of changes on the part of organs and body systems. Therefore, the rehabilitation of such patients is very relevant (Epifanov V.A. 2014). Due to insufficiently effective drug therapy, non-drug treatment of arterial hypertension has been developing recently. The means of therapeutic physical culture (physical therapy) are widely introduced, which are used in the therapeutic process, as they make up for the lack of motor activity of a modern person.

It is necessary to include physical therapy in the program of treatment of patients with hypertension for faster recovery of health and working capacity. There is a lot of data in the literature on the rehabilitation of patients with hypertension, however, there is no differentiated approach to the use of physical therapy taking into account the disease, the functional state of the circulatory system and respiratory organs (Drapkina O.M. 2017).

Due to the high prevalence of hypertension, there is a need for continuous improvement of means, forms, methods and techniques of therapeutic physical culture and therapeutic massage (Roy B.A. 2011).

The use of means and forms of physical therapy is one of the ways of rational and effective treatment of hypertension. There is a positive effect of physical exercises on the whole body and its functions, on the metabolism, the psyche of the patient, which is especially important in the treatment of hypertension.

This work is devoted to the use of physical therapy in the complex rehabilitation treatment of patients with hypertension.

Based on the study of various literature sources, we have developed a differentiated prescription of drugs and forms of exercise therapy for hypertension (Golovunina I. S. 2010).

Means of physical therapy increase the general adaptive capabilities of patients, their resistance to various stressful influences, giving mental relaxation and improving emotional state, develop physiological functions and motor qualities, increasing mental and physical performance. Activation of the motor mode improves the functions of the systems regulating blood circulation, improves the contractility of the myocardium and blood circulation, reduces the content of lipids and cholesterol in the blood, promotes the development of collateral vessels, reduces hypoxia, which ultimately prevents and eliminates the manifestations of most risk factors for hypertension (Chazova I.E., Mychka V.B. 2008).

A feature of physical rehabilitation in patients is an initially low functional state, therefore, with inadequate loads, they may also have signs of overload, manifested by a decrease in tolerance during repeated stress tests (Dubrovsky V.I. 2016). Since the shift of the vegetative balance towards sympathetic activation may be one of the early signs of inadequate FT (Makarova I.N. 2010), it would be logical to use this approach to monitor the effectiveness of rehabilitation measures in patients (Kiselev A.R., Shvarts V.A., Posnenkova O.M. et al. 2011). For these purposes, the assessment of heart rate variability (HRV) is used both during daily monitoring of electrocardiography (ECG) (Drapkina O. M. 2017) and in short recording sections (Martirosov E.G. 2016), but these techniques are not widely used. Therefore, attempts to simplify the analysis of the vegetative status of patients using automated HRV assessment methods look attractive.

In recent years, there has been an increased interest in exercises in patients with GB in the isometric mode (static exercises). The hypotensive effect of static loads is due to their positive effect on the vegetative centers, followed by a depressive reaction. So, an hour after performing such exercises, blood pressure decreases by more than 20 mm Hg. Exercises in isometric mode are performed in a sitting or standing position, they include holding dumbbells (1-2 kg), stuffed balls and other objects in outstretched hands. Exercises in the isometric mode are necessarily combined with arbitrary muscle relaxation and breathing exercises.

Usually, loads are used for the muscles of the arms, shoulder girdle, trunk, legs, less often for the muscles of the neck, abdominal press. After a few months of classes, patients with borderline hypertension and stage I of the disease with stable normal blood pressure can switch to physical education classes in health groups, swimming, recreational running, some sports games, continuing to apply exercises in muscle relaxation.

With hypertension of stage II A and B, the nature of the rehabilitation effect and the conditions in which it is carried out (polyclinic, hospital or sanatorium) depend on the patient's condition, the severity of existing complications and the degree of adaptation to physical exertion. At this stage, a large proportion is occupied by special exercises, in particular, for muscle relaxation. More attention is paid to massage and self-massage, especially the collar area.

Dosed walking, swimming, moderate cycling-ergometric load, exercise, games, autogenic training are necessary and effective enough.

The beneficial effect of rehabilitation programs is manifested by changes in the vegetative balance with an increase in the tone of the parasympathetic nervous system (Golovunina I. S. 2010)., long-term physical training (FT) has the same effect (Chazova I.E., Mychka V.B. 2008). At the same time, unfavorable shifts in the state of the body are accompanied by sympathetic activation, there is a connection between indicators of vegetative balance and risk factors for cardiovascular diseases (Epifanov V.A. 2009), damage to target organs in arterial hypertension (AH) (Ibatov A.D. 2017). Such changes may be a manifestation of functional overload in FT in athletes (Lanfan K. 2009), reaching the greatest severity with the development of overtraining (Martirosov E.G. 2016).

One of these methods is the ORTO Expert system, which evaluates changes in HRV during an active orthostatic test (AOP), followed by an automated conclusion about the type of adaptation of the subject. This technique has been tested during dynamic observation of healthy adolescents . Despite the fact that there are data on the use of this system in patients with coronary heart disease (CHD) (Drapkina O. M. 2017), its capabilities for evaluating the effectiveness of rehabilitation measures in cardiac patients have not yet been studied.

A comprehensive program, including regular classes at the School of Health, is a clinically effective method of therapeutic, preventive and rehabilitation measures for patients with hypertension. The dynamics of hemodynamic parameters in patients with hypertension is characterized by a decrease in the average level of SAD and DAD, an improvement in the results of stress testing: an increase in the indicators of maximum aerobic load and the time of onset of the threshold of anaerobic metabolism.

Significant, most pronounced changes in the indicators of patients with hypertension and MS appear 6 months after the start of rehabilitation measures, especially in the group of people who regularly attended classes at the School of Health. The positive effects of complex rehabilitation with the inclusion of classes in the School of Health are persistent, persist for the next 6-8 months.

The use of physical rehabilitation in outpatient settings in comparison with isolated drug therapy in patients with hypertension makes it possible to combat negative behavioral FR (overweight, sedentary lifestyle) and achieve the target blood pressure level with greater efficiency (Dubrovsky V.I. 2016). In our study, the effectiveness of physical exercises in patients with hypertension was proved, while the most pronounced positive dynamics was observed during cardio training with the use of cyclic simulators.

The work consists in the fact that on the basis of the conducted research, a program of comprehensive physical rehabilitation of patients with arterial hypertension has been developed and scientifically substantiated.

The program is accessible and easy to implement, it requires only cyclic and strength simulators, which gives the technique competitive advantages over similar programs using antihypertensive drugs, physiotherapy procedures and massage (Chazova I.E., Mychka V.B. 2008).

The data obtained can be used in sports and wellness centers, fitness clubs, polyclinics, sanatoriums and medical institutions working with patients with hypertension.

Physical therapy plays an important role in the rehabilitation of patients with GB, especially in the open air. The influence of climatic factors, the picturesque landscape of the area, organically merging with the direct effect of physical activity, allows you to achieve a positive result.

In patients with GB, in the course of classes, the strength and mobility of nervous processes increase, the overall tone of the body improves, excitability decreases, neurotic manifestations are eliminated. Rehabilitation with the help of physical therapy in a hospital, in a polyclinic, as well as in a resort is aimed at introducing patients with GB to a mobile lifestyle, teaching them various gymnastic exercises that they can perform at home.

The influence of climatic factors, the picturesque landscape of the area, organically merging with the direct action of gymnastic exercises, allows you to achieve a positive result. In patients with GB, in the course of classes, the strength and mobility of nervous processes increases, the overall tone of the body improves, excitability decreases, neurotic manifestations are eliminated (Wickwire P. J.2009).

In the conditions of the resort, physical therapy is also aimed at introducing patients with GB to a mobile lifestyle, teaching them various gymnastic exercises that they can perform at home.

A distinct positive effect is observed with prolonged and systematic use of exercise therapy, especially in outpatient settings. Spa treatment can significantly improve the general condition of patients with GB, lower blood pressure and create a safe background for subsequent therapy in a polyclinic.

With recovery, some therapeutic methods limit or exclude, and the specific weight of exercise therapy increases. Doing exercises, the patient himself actively participates in the healing and recovery process, and this has a beneficial effect on his psycho-emotional sphere. Classes also have an educational value: the patient gets used to systematically perform physical

exercises, it becomes his daily habit. Physical therapy classes turn into general physical education classes, become a person's need after recovery.

With the help of medical and physical rehabilitation, a sick person finds the strength to give up alcohol and smoking and turn to sports, physical education and a healthy lifestyle. In the process of recovery, he turns less and less to medications, preferring walks in the fresh air, swimming, hardening. Angelo Mosso said that exercise can replace many medications, but no medicine in the world can replace exercise. We must not forget that exercise therapy refers to highly effective drugs, which, like other methods of treatment, must be strictly dosed and controlled by a doctor. Only a doctor who knows the patient's condition, the features of his disease, can correctly determine the magnitude and nature of physical activity (Makarova I.N. 2010).

After a hypertensive crisis, returning to normal work and daily life, you should continue training the body. As clinical experience shows, when relatives and friends are constantly engaged in therapeutic gymnastics with the patient, encourage the patient, the recovery process goes faster and better. The family can help in observing the correct daily routine and nutrition, in developing a new life stereotype.

With hypertension of stage I and stage IIA, treatment is carried out at balneological, climatic and local cardiological sanatoriums. The optimal time of year for patients with GB is spring, summer, autumn. The optimal complex of medical procedures should be selected for each patient. They use aerotherapy (sleeping outdoors, by the sea), exercise therapy in the fresh air, exercise therapy, balneotherapy, baths, massage, electroson, treatment with sea climate and bathing in combination with sunbathing.

Autogenic training, a special diet and a proper daily routine are also used. Massage as a therapeutic method is indicated for stages I and II of hypertension. At the III degree of hypertension, massage is used only at the stage of semi-bed

rest or free regime in a hospital. Paragraph 5 describes the main massage techniques for hypertension.

The effectiveness of treatment is determined by the mandatory complexity of various rehabilitation measures, such as physical therapy, drug therapy, physiotherapy, occupational therapy, psychological correction. Only a diverse combination of these methods, their flexible variation depending on the current tasks of a certain recovery stage of treatment, allows for optimal rehabilitation.

No matter how perfect medicine is, it cannot rid a person of all diseases. Man is the creator of his own health. It is necessary to lead an active lifestyle, harden up, engage in physical education and sports, observe the rules of personal hygiene, and achieve genuine harmony of health in reasonable ways. Experienced psychotherapists can inspire the patient to overcome physical weakness and mental depression. A recovering person should get rid of uncertainty about their abilities.

Based on the above, indicating the social and economic importance of arterial hypertension in modern society, therapeutic physical culture is presented as the most promising non-drug treatment for this disease.

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