

Medical rehabilitation of women with essential arterial hypertension against the background of climacteric syndrome

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Medical aftercare for females with the essential hypertension associated with the climacteric syndrome

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SUMMARY

The article presents the results of medical rehabilitation of patients with essential arterial hypertension (stages I-II, grade 1-2) against the background of mild and moderate climacteric syndrome (92 women, mean age 50 ± 4.5 years) using a drug hypotensive standard (candesartan, bisoprolol, hydrochlorothiazide), non-hormonal drug therapy (climadinon) and spectral phototherapy physiotherapy. The revealed features of the observed patients are reliable normalization of indicators of blood pressure level, vegetative status, reactivity, anxiety, normalization of cerebral hemodynamics according to REG data, indicators according to the SAN scale. In the main group of observations (with the use of a course of treatment by the method of spectral phototherapy), the total clinical efficiency reaches 81.4%, in the comparison group - 65.5%. The main results are to stabilize the level of blood pressure, improve overall well-being, reduce the manifestations of climacteric syndrome against the background of normalization of the vegetative status, cerebral hemodynamics and psycho-emotional state.

Key words: essential arterial hypertension, climacteric syndrome, spectral phototherapy, blood pressure, cerebral hemodynamics, psycho-emotional state.

RESUME

This article represents the results of after-care treatment for females with essential arterial hypertension and mild or moderate climacteric syndrome (92 females aged 50 ± 4.5) under application of standard hypotensive pharmaceuticals (Candesartan, Bisoprolol, and Hydrochlorothiazide), non-hormonal pharmaceuticals (Klimadynon Uno), and spectral phototherapy as a physiotherapy approach. Such treatment resulted in reliable stabilization of blood pressure, vegetative functions, responsiveness, anxiety, encephalitic circulatory dynamics according to the REG data, and WAN indicators. The average clinical response of the control group amounts to 81.4%, while that of the experimental group makes up 65.5%. The key results are sustainable blood pressure stabilization, improved overall health,

Keywords: essential arterial hypertension, climacteric syndrome, spectral phototherapy,

blood pressure, encephalitic circulatory dynamics, psychoemotional state.

Most relevant and priority in medical rehabilitation of women is the use of new methods of physiotherapeutic correction of the functional state of the cardiovascular, nervous and endocrine systems of the body. This is of great importance for the treatment and prevention of the early development of socially significant diseases of aging in women, including such as the initial forms of insufficient blood supply to the brain (NF NKHM), essential arterial hypertension (EAH) and climacteric syndrome (CS). Clinical symptoms accompanying the age-related restructuring of the female body disrupt the general well-being and emotional status, reduce working capacity and worsen the quality of life in 60-80% of women aged 45 to 60 years, including due to the development of signs of chronic cerebrovascular insufficiency against the background of arterial hypertension and autonomic dysfunction [8, 12, 21].

Unfortunately, for women with EAH, the standard methods for the prevention and correction of CS (hormone replacement therapy in combination with the use of neurotropic drugs [10, 19, 18]) are most often either poorly tolerated or contraindicated due to the difficulties arising during drug correction of blood pressure (BP). The use of non-hormonal drugs also does not always solve this problem [11]. To increase the effectiveness of therapy in women with EAH against the background of CS, there is an urgent need to combine the possibilities of modern methods of physiotherapy with the necessary drug standard - antihypertensive and non-hormonal anti-climacteric therapy. The therapeutic and prophylactic potential of various physical factors is well known,

The practical implementation of the task of restoring the health and working capacity of women with essential arterial hypertension against the background of climacteric syndrome is associated with an obligatory integrated approach in the choice of methods of treatment and medical rehabilitation. The results obtained by a number of modern authors indicate that essential arterial hypertension and climacteric syndrome are associated with dysfunction of the central nervous system, autonomic dysregulation, incl. endocrine system, membrane transport disorders [22], which ultimately leads to persistent disorders in the state of the cardiovascular, endocrine systems, cerebral blood flow and functions of the central and autonomic nervous systems.

The main objective of the use of physical therapy methods in the medical rehabilitation of patients with EAH against the background of CS is to influence the main pathogenetic mechanisms of diseases: central and autonomic regulation of the cardiovascular and endocrine systems, cerebral hemodynamics, adaptive

adaptive reactions, metabolic and endocrine disorders, which leads to a correction of the level of blood pressure and endocrine and psycho-emotional manifestations of the CS [3, 23].

The well-known mechanism of the therapeutic effect of spectral phototherapy (SFT) on the regulation of the microelement composition of organs and tissues [16, 17, 20], the state of the autonomic nervous system, psychoemotional status and metabolic processes, as well as cerebral hemodynamics in a number of aging diseases made it possible to apply the SFT method in women with EAH stages I - II (1-2 degrees) against the background of mild and moderate CS [2, 11, 12].

All of the above determined the goal and objectives of this study. Objective of the study: to study the clinical and neurological parameters in women with essential arterial hypertension of I-II stages (grade 1-2) against the background of climacteric syndrome of a typical form of mild and moderate severity during medical rehabilitation using the method of spectral phototherapy.

Research objectives:

1. To study the somatic status and cerebral hemodynamics in women with climacteric syndrome (CS) of a typical form with different phases of menopause and the severity of the disease.

2. Trace the dynamics of the clinical picture of the disease, the level of arterial pressure, state of cerebral hemodynamics, autonomic nervous system and emotional status in women with essential arterial hypertension against the background of climacteric syndrome of a typical form under the influence of course treatment with spectral phototherapy against the background of mandatory

antihypertensive therapy and the drug klimadinon.

3. Assess the clinical effectiveness of a complex of medical rehabilitation with the use of spectral phototherapy for women with EAH I-II stages 1 and 2 degrees against the background of climacteric syndrome of a typical form against the background of antihypertensive therapy and the drug klimadinon.

To solve the set tasks, a comprehensive clinical and physiological examination was carried out of women suffering from essential arterial hypertension of stages I-II (grade 1-2) against the background of a typical form of climacteric syndrome (CS) of mild and moderate severity. The diagnosis of the disease was established according to the ICD-10 classification (1980) and E.M. Vikhlyeva (2002), the severity was judged by the Kupperman menopausal index modified by E.V. Uvarova (MMI, 1982).

Clinical examination included taking anamnesis, clinical and somatic examination, results of gynecological examination, ultrasound of the pelvic organs, determination of the level of hormones in the peripheral blood (LH, FSH, estradiol, progesterone, prolactin, testosterone), standard laboratory and biochemical studies. The blood pressure level was closely monitored. The functional features of the cardiovascular system were investigated according to the results of an electrocardiographic study. To study cerebral hemodynamics, the method of rheoencephalography (REG) was used according to the generally accepted technique with frontal-mastoidal and occipito-mastoidal positioning of electrodes synchronously on both sides with a qualitative and quantitative assessment of rheograms (APK "Valenta", NEO NPP, St. Petersburg). Electro-acupuncture diagnostics by the method of R.

MINI-EXPERT-DT with software from IMEDIS (Moscow).

To assess the state of the autonomic nervous system in the process of medical rehabilitation, we used the "Questionnaire for identifying signs of autonomic changes," filled in by the patient, and the "Standard scheme for identifying signs of autonomic disorders," completed by a doctor [9].

Neuropsychological examination included the assessment of reactive and personal anxiety according to the "Scale of self-assessment of the level of anxiety" according to RR. Spielberger; testing according to the "SAN" method.

Statistical processing of the obtained results was carried out on the basis of the statistical software package SPSS 12.0, Statistika 6.0. In all cases, the differences with the level of statistical significance $p < 0.05$ were recognized as significant.

There were 92 patients under observation with essential arterial hypertension of I and II stages (grade 1–2) against the background of a typical form of climacteric syndrome of mild and moderate severity. The average age of the patients was 50.0 ± 4.5 years; from 44 to 49 years old - 55 (54%), from 50 to 55 years old - 47 (46%) women. The diagnosis of "essential arterial hypertension" in all patients included in the study took place for at least 3 years. According to the phases of menopause, 46% were in premenopause, 54% were in postmenopausal women. By the duration of climacteric disorders: up to 5 years - 78%, from 5 to 7 years - 18%, over 7 years - 4% of patients. When applying to premenopausal women, 25% of women had a regular menstrual cycle, and 75% had irregular menstrual cycles at intervals of 3–6 months. The duration of postmenopause was from 4 months. up to 6 years old. The average age at the onset of menopause is 50.6 ± 1.7 years. Mild climacteric syndrome was detected in 44% of patients, moderate severity - in 56%.

In accordance with the objectives of the study, all women with EAH on the background of CS were divided into two groups comparable in terms of the main clinical and functional characteristics. Treatment of all patients was carried out against the background of non-hormonal drug therapy - the drug Klimadinon ("ORNICA", Germany), 30 caps. or 1 table. 2 times a day, 1 hour after meals.

Group I consisted of 47 women with essential arterial hypertension on the background of a typical form of mild and moderate CS, who received constant antihypertensive therapy (candesartan, bisoprolol, hydrochlorothiazide) and non-hormonal drug therapy with climadinone for 3 months.

Group II included 45 women with essential arterial hypertension on the background of CS of a typical form of mild and moderate severity, receiving similar antihypertensive and non-hormonal drug therapy (climadinon) for 3 months and treatment with spectral phototherapy (SFT) from the SPEKTO-R »Lamps XII (trace elements lithium and bromine) and XIII (trace elements potassium, calcium, magnesium, sodium). The SFT course consisted of 10-15 daily procedures lasting 30 minutes, according to the puncture-segmental technique. SFT was performed once a month during 3 months of rehabilitation treatment.

Research results and their discussion

At the initial examination, the main complaints of the patients were hot flashes to the face and upper body (89.3%) and hyperhidrosis (87.4%). Other common complaints: headache (86.4%), sleep disturbances (83.3%), decreased mood background (82.5%), irritability and tearfulness (79.6%), memory impairment (78.6%), decreased performance (73.7%), dizziness (70.6%).

In neurological status, initial signs were most often detected.

chronic cerebrovascular insufficiency - 42%, autonomic dysfunction - 51%. Concomitant diseases - ischemic heart disease - 7%, diabetes mellitus - 8%.

In a large number of women, the disease proceeded against the background of a burdened gynecological history: ovarian dysfunction - in 42.3%, chronic diseases of the female reproductive system - in 36.3%, cervical erosion - in 12.6%, uterine fibroids - in 8, 8% of women. Primary and secondary infertility suffered 17.4%, miscarriage - 2.1%.

Significant changes were recorded in the vegetative sphere in the form of bright red persistent dermographism (34.9%), white dermographism (20.1%), the appearance of vascular spots on the neck and chest (15.6%), blood pressure lability (13.8%)., tachycardia (11.0%), intolerance to stuffiness (69.7%), deterioration of health when the weather changes (48.6%).

According to the medical "Study Scheme to identify signs of autonomic disorders" [9], the indicators corresponded to the pronounced syndrome of autonomic dystonia: in group I - 42.9 ± 4.9 points, in group II - 43.1 ± 4.9 points. The results obtained were comparable with the results of the questionnaire survey of patients according to the "Questionnaire for identifying signs of autonomic disorders": in group I - 35.5 ± 2.92 points, in group II - 36.7 ± 2.89 points.

Initial measurements of electrical conductivity at acupuncture points according to R. Voll's method in women with CS significantly differed from the values obtained when examining a group of healthy women, and had an irritative character.

During neuropsychological examination according to the "Scale of self-assessment of the level of anxiety" Ch.D. Spielberger and J.Yu. Khanin, high levels of both reactive (in group I - 52.1 ± 6.5 points, in group II - 49.1 ± 4.9 points) and personal anxiety (in group I - $50.4 \pm 3, 4$ points, in II - 48.1 ± 4.8 points).

The obtained data on the SAN scale testified to stock hypochondriacal fixations, anxiety disorders and women's negative perception of their condition. The indicator "well-being" was: in group I - 3.91 ± 0.3 points, in group II - 3.81 ± 0.19 ; "Activity": in group I - 3.77 ± 0.3 points, in group II - 3.92 ± 0.18 points; "Mood": in group I - 4.15 ± 0.4 points, in group II - 3.98 ± 0.9 .

According to the REG data, in the initial state, an increased vascular tone was noted mainly in the vertebro-basilar system with obstruction of venous outflow from the cranial cavity; indicators of the state of tonic-elastic properties of blood vessels were increased. The values of REG indicators in women with CS before the course of medical rehabilitation were: 1) rheographic index (RI): in group I - 1.7 ± 0.1 points, in group II - 1.51 ± 0.01 ; 2) the time of propagation of the rheographic wave (RVP): in group I - 0.17 ± 0.3 points, in group II - 0.16 ± 0.2 ; in group III - 0.18 ± 0.03 points; 3) modulus of elasticity (ML): in group I - 24.6 ± 2.2 points, in group II - 25.3 ± 2.1 ; 4) venous outflow (VO): in group I - 22.8 ± 4.4 points, in group II - 22.6 ± 3.2 ; 5) dicrotic index (DIC): in group I - 0.8 ± 0.04 points, in group II - 0.82 ± 0.03 ; 6) peripheral resistance index (PSI): in group I - 2.55 ± 0.2 points, in group II - 2.46 ± 0.2 ; 7) diastolic index (DSI): in group I - 0.8 ± 0.05 points, in group II - 0.83 ± 0.05 ; 8) asymmetry coefficient (CA): in group I - $20.9 \pm 4.2\%$, in group II - 19.8 ± 4.3 .

The data obtained indicate the presence of signs of chronic cerebrovascular insufficiency in the majority of the examined women with CS.

The initial hormonal status was characterized by a low level of estradiol in premenopausal and postmenopausal women: in group I - 95.4 ± 8.6 and 40.1 ± 5.9 pmol / l, in group II - 115.2 ± 8.3 and 49.1 ± 3.7 pmol / l, respectively. The concentration of LH in pre- and postmenopausal women was: in group I - 38.3 ± 2.1 and 66.4 ± 3.2

units / l, respectively, in group II - 37.8 ± 1.8 and 68.4 ± 2.6 units / l. A high level of FSH was revealed: in group I - 51.2 ± 2.6 and 83.5 ± 6.8 units / l, in group II - 49.6 ± 2.1 and 87.2 ± 3.4 units / l, respectively.

Medical rehabilitation results

With the use of a course of treatment by the method of spectral phototherapy (1 course per month for 3 months), high clinical efficacy was obtained in women with a predominance of psycho-emotional disorders in the clinical picture of CS (Table 1).

Received data confirm results appraisals speakers modified menopausal index (MMI), which significantly decreased in patients with neurovegetative manifestations of mild and moderate CS: in group II from 11.8 ± 1.6 to 7.8 ± 0.9 ($p = 0.0157$) and with 24.7 ± 0.5 to 14.3 ± 0.4 points ($p = 0.0495$); in group I from 11.6 ± 1.2 to 7.9 ± 0.6 ($p = 0.0502$) and from 21.9 ± 1.3 to 18.2 ± 1.5 ($p = 0.1719$) points, respectively. With the predominance of neuro-vegetative and psycho-emotional disorders in the clinical picture, the MMI indices decreased as follows: in group II (with SFT) - from 12.4 ± 1.7 to 4.1 ± 1.4 ($p = 0.0312$) and from 14.1 ± 1.2 to 5.9 ± 1.3 points ($p = 0.0255$); in group I - from 10.9 ± 0.4 to 7.9 ± 0.8 ($p = 0.0394$) and from 25.4 ± 2.1 to 16.9 ± 1.7 ($p = 0.0842$) points, respectively. Comparative characteristics of the results of medical rehabilitation are presented in table. 2.

In the studied groups, under the influence of the conducted complexes of medical rehabilitation, there was a significant positive dynamics in the clear normalization and stabilization of the blood pressure level, relief of vegetative symptoms. There was a decrease in headaches, increased general sweating, acrohyperhidrosis, cold hands and feet, cardialgia. Patients noted a decrease in general weakness and the severity of deterioration in climatic changes.

There was an improvement in indicators according to the "Study Scheme to identify signs of autonomic disorders": in group II by 31.3% - from 39.1 ± 5.01 to 26.3 ± 4.22 ($p = 0.0388$), in group I group by 28% - from 33.9 ± 3.64 to 27.6 ± 4.03 points ($p = 0.04712$). Comparable results were obtained for the "Questionnaire for identifying signs of vegetative changes."

According to the alarm scale, Ch.D. Spielberger and Yu. Khanin in all observation groups, the average value of the reactive anxiety indicator decreased: by 20% in group II - from 49.4 ± 4.9 to 38.5 ± 3.9 points ($p = 0.0296$), in group I patients - with 52.7 ± 7.2 to 43.5 ± 5.1 points ($p = 0.0481$).

The normalization of the psycho-emotional status in patients with CS was expressed in the disappearance or reduction of irritability, tearfulness, emotional lability, fatigue; improved mood (Table 3). According to the parameters of rheoencephalography (REG), an increase in peripheral vascular resistance and obstruction of venous outflow were recorded before the course of medical rehabilitation. As a result of medical rehabilitation courses, positive functional changes in cerebral blood flow were observed in all groups. This

was expressed in the improvement of the elastic-tonic properties of the vascular wall, a clear tendency towards the normalization of venous outflow from the cranial cavity (in group I VO - from 23.4 ± 3.9 to 17.8 ± 3.1 points at $p = 0.0463$, in Group II from 22.9 ± 3.4 to 12.1 ± 3.2 with $p = 0.0347$). An increase in the value of pulse blood filling and regression of interhemispheric asymmetry were recorded (CA decreased from 20.7 ± 3.7 to $15.3 \pm 3.2\%$ in group I at $p = 0.0361$, in group II - from $20.3 \pm 3, 9$ to $11.7 \pm 2.4\%$ at $p = 0.0391$). In 73% of patients with EAH on the background of CS when using spectral phototherapy against the background of antihypertensive drug treatment and the drug climadinon and in 43% of patients in the group without the use of spectral phototherapy courses, cerebral hemodynamics normalized in the form of eliminating the deficiency of blood circulation in the brain against the background of improved venous outflow (Table 4).

Table 1

The dynamics of clinical manifestations in patients with EAH on the background of CS in as a result of complex treatment (in%, n = 72)

Проявления	степень тяжести КС	I группа (n = 40)	II группа (n = 32)	достоверность
психо-эмоциональные	легкая	61 % p = 0,05	83 % p = 0,01	pI-II = 0,004
	средняя	54 % p = 0,69	71 % p = 0,04	pI-II = 0,006
нейро-вегетативные	легкая	69 % p = 0,04	80 % p = 0,01	pI-II = 0,001
	средняя	56 % p = 0,72	67 % p = 0,03	pI-II = 0,002

При сравнении показателей между группами использовали критерий МакНемара χ^2 с уровнем статистической значимости $p < 0,05$.

table 2

The number of patients with EAH on the background of CS with disappearance or significant decrease in subjective symptoms as a result of medical rehabilitation (in%) n = 72

Symptoms	I group (n = 40)	II group (n = 32)	credibility
Tides	71 p = 0.04	83 p = 0.001	pI-II = 0.002
Headache	69 p = 0.18	77 p = 0.23	pI-II = 0.005
Hyperhidrosis	59 p = 0.05	70 p = 0.04	pI-II = 0.001
Depression	60 p = 0.31	82 p = 0.001	pI-II = 0.0001
Irritability	52 p = 0.08	77 p = 0.03	pI-II = 0.004
Sleep disturbances	59 p = 0.06	72 p = 0.03	pI-II = 0.006
Decrease operability	65 p = 0.02	82 p = 0.01	pI-II = 0.005
Memory impairment	50 p = 0.14	74 p = 0.02	pI-II = 0.006

* Note. When comparing indicators between groups, the criterion was used McNemar χ^2 , level of statistical significance $p < 0.05$.

Table 3

Dynamics of the "SAN" scale indices in patients with EAH on the background of CS before and after medical rehabilitation (in points, n = 92)

		I группа (n = 47)	II группа (n = 45)
Самочувствие	До лечения	3,86 ± 0,2	3,91 ± 0,18
	После лечения	4,64 ± 0,3 p = 0,0253	5,72 ± 0,3 p = 0,0382
Активность	До лечения	3,74 ± 0,2	3,91 ± 0,15
	После лечения	4,89 ± 0,3 p = 0,0159	5,02 ± 0,17 p = 0,0164
Настроение	До лечения	4,12 ± 0,4	3,76 ± 0,6
	После лечения	5,18 ± 0,3 p = 0,0172	6,10 ± 0,15 p = 0,0145

*Примечание. При сравнении показателей использовали t-критерий Стьюдента, с уровнем статистической значимости $p < 0,05$.

Table 4

Dynamics of REG indices in patients with EAH on the background of CS in FM lead to and after a course of medical rehabilitation (in points)

Показатели (в баллах) норма	I группа (n=47)		II группа (n=45)	
	До лечения	После лечения	До лечения	После лечения
РИ 0,9-1,7	1,7 ± 0,01	1,6 ± 0,01 p = 0,2349	1,51 ± 0,01	1,24 ± 0,02 p = 0,0209
ВРВР 0,18-0,2	0,17 ± 0,3	0,16 ± 0,2 p = 0,0801	0,16 ± 0,03	0,15 ± 0,04 p = 0,0201
МУ 15-20	24,6 ± 2,2	24,1 ± 1,9 p = 0,0670	25,3 ± 2,1	20,4 ± 2,2 p = 0,0417
ВО 0-20	22,8 ± 4,4	18,5 ± 3,2 p = 0,0392	22,6 ± 3,2	11,7 ± 4,2 p = 0,0364
ДКИ 0,45-0,6	0,8 ± 0,04	0,7 ± 0,04 p = 0,0637	0,82 ± 0,03	0,51 ± 0,04 p = 0,0608
ИПС 1,45-1,9	2,56 ± 0,3	2,33 ± 0,2 p = 0,1140	2,44 ± 0,3	2,01 ± 0,3 p = 0,0242
ДСИ 0,50-0,6	0,9 ± 0,04	0,7 ± 0,05 p = 0,0507	0,83 ± 0,05	0,56 ± 0,05 p = 0,0534
КА (в %) 0-20	21,2 ± 3,7	16,4 ± 4,2 p = 0,0359	19,8 ± 4,2	11,6 ± 2,1 p = 0,0412

При сравнении показателей использовали t-критерий Стьюдента, при уровне статистической значимости $p < 0,05$.

Positive changes cerebral hemodynamics contributed to normalization of central and autonomic regulation of vascular tone and endocrine system. LH level decreased in pre- and postmenopause: in patients of group I - from 36.2 ± 2.2 to 24.9 ± 2.6 ($p = 0.0123$) and from 65.2 ± 2.3 to 47.4 ± 1.7 units / l ($p = 0.0534$), in group II - from 37.1 ± 1.9 to 22.6 ± 1.4 ($p = 0.0191$) and from $64.9 \pm 2, 3$ to 44.8 ± 1.8 ($p = 0.0122$), respectively. FSH content decreased in group I from 51.3 ± 2.2 to 33.8 ± 2.5 units / L in premenopausal women ($p = 0.0623$) and from 80.4 ± 7.1 to $61.3 \pm 3, 1$ ($p = 0.0250$) in postmenopausal women, in group II - from 49.4 ± 2.5 to 29.3 ± 2.4 ($p = 0.0141$) and from 83.4 ± 2.9 to $55, 3 \pm 5.2$ ($p = 0.0467$), respectively. An improvement in the functional state of the ovaries was noted, which was confirmed by an increase in the level of estradiol in the study groups. In premenopausal group II patients, estradiol increased from 113.2 ± 8.1 to 154.8 ± 7.9 ($p = 0, 0317$) and in postmenopausal women from 48.8 ± 4.1 to 64.8 ± 4.2 pmol / L ($p = 0.0485$), in group I - from 93.4 ± 7.9 to $112.7 \pm 9, 2$ ($p = 0.0317$) and from 41.2 ± 5.7 to 61.4 ± 5.3 pmol / L ($p = 0.0537$), respectively. Thus, the medical rehabilitation of patients with essential arterial hypertension of I and II stages (grade 1-2) against the background of mild and moderate CS with the use of courses of spectral phototherapy against the background of medications contributed to a decrease in the level of blood pressure.

systolic by 7-10 mm Hg. Art. and diastolic by 4-5 mm Hg. Art., stable stabilization of the level of blood pressure, correction of hormonal status (mainly in premenopausal patients with a preserved rhythm of menstruation). The ultrasound data of the pelvic organs indicated the absence of negative dynamics in the state of the female genital area.

According to the results of electropunctural diagnostics after a course of spectral phototherapy, a reliable normalization of the average indicators of electrical conductivity in the projection points of the sympathetic division of the autonomic nervous system in patients of group II was achieved. Moreover, complete and rapid normalization of the above values was achieved in 50% of patients by the 5-6th SFT procedure.

High clinical efficiency of medical rehabilitation of patients with essential arterial hypertension of I-II stages of 1 and 2 degrees against the background of climacteric syndrome of a typical form of mild and moderate severity using regularly repeated courses of spectral phototherapy against the background of a drug standard (candesartan, bisoprolol, hydrochlorothiazide), climadinone was confirmed delayed results. It was found that the preservation of the achieved results after a course of medical rehabilitation with a course of SFT was noted in 62% ($p = 0.001$) of patients with mild CS within 9 months of observation, with a further decrease in this indicator to 41% ($p = 0.01$) with a period of observation up to one year (with moderate severity - within 6 months in all patients).

The studies have revealed the positive effect of the new complex of medical rehabilitation on the main links of pathogenesis in women with essential arterial hypertension of I-II stages of 1 and 2 degrees against the background of climacteric syndrome (CS). The fixed improvement in the state of cerebral hemodynamics led to the normalization of the functional state of the hypothalamic-pituitary complex, which caused a persistent tendency towards normalization and stabilization of the blood pressure level, equalization of the ratio of gonadotropins and normalization of processes in the reproductive system. Consequently, the course treatment by the method of spectral phototherapy, used against the background of the antihypertensive standard and therapy with the drug Klimadinon,

Conclusions:

1. Comprehensive medical rehabilitation with the use of a course repeated treatment with spectral phototherapy against the background of a hypotensive standard and treatment with Klimadinon normalizes the clinical manifestations of EAH against the background of CS, emotional status, cerebral hemodynamics in 68% of women. High clinical efficacy of SFT in combination with antihypertensive therapy (bisoprolol, candesartan, hydrochlorothiazide) and non-hormonal anti-climacteric therapy (climadinon) was revealed in women with a predominance of neuro-vegetative disorders in the picture of the disease.

2. A complex of medical rehabilitation, consisting of drug therapy (candesartan, bisoprolol, hydrochlorothiazide, climadinon) and course use of SFT

for women with essential hypertension of I-II stages of 1 and 2 degrees against the background of climacteric syndrome of a typical form of mild and moderate severity, it can significantly reduce the time for relief of symptoms of the disease (on days 6-7 of treatment), achieve stable stabilization of the blood pressure level, normalize cerebral hemodynamics, vegetative and emotional status (by the end of the course of treatment - 8-12 days of treatment), restore the quality of life of patients and achieve stable remission up to 6-9 months. This therapeutic option of medical rehabilitation of women with EAH against the background of CS can be applied at the outpatient, inpatient and sanatorium-resort stages of treatment, especially in patients with EAH,

3. Features of cerebral hemodynamics identified during our studies (a significant increase in vascular tone in the vertebrobasilar system with impaired outflow, a decrease in the elastic-tonic properties of blood vessels and asymmetry of blood flow) in women with stage I - II stage 1-2 EAH, against the background of a typical form of moderate climacteric syndrome lead to incomplete control of blood pressure with antihypertensive drugs, a more pronounced picture of neuro-vegetative and psycho-emotional manifestations in comparison with patients with a typical form of mild CS, which makes the use of additional non-drug technologies that stabilize and potentiate the results of drug treatment.

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