

Differentiated approach to the treatment of abdominal obesity in the elderly patients with dyscirculatory encephalopathy

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Differentiated approach to treatment of abdominal obesity in elderly patients with discirculatory encephalopathy

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SUMMARY

In this paper, for the first time, differentiated approaches to the treatment of abdominal obesity in elderly patients with dyscirculatory encephalopathy associated with type 2 diabetes are considered. The clinical and psychological characteristics of the elderly patients were studied and analyzed, and a dynamic assessment of anthropometric indicators was made. Various variants of reflexotherapeutic effects were tested and selected, taking into account the psychopathological profile, in comparison with the standard therapy regimen.

The study showed that the complex unidirectional action of the combination of pharmacotherapy with reflexotherapy significantly increased its effectiveness: the psycho-emotional state and clinical symptoms stabilized, vegetative manifestations were harmonized, body mass index and waist to hip ratio improved in patients of the main groups. A differentiated approach showed significant regression of overweight in the anxiety-depressive group using various methods of reflexology in people with a depressive and hypochondriacal profile and with astheno-depressive syndrome, significant results using a combined version of acupuncture and pharmacopuncture. There were no significant differences in the control group. There was a prolonged effect in the main groups compared with the control, confirmed by catamnesis. Practical recommendations for the management of these patients have been developed.

Keywords: body mass index, abdominal obesity, chronic cerebral ischemia, dyscirculatory encephalopathy, reflexology, pharmacopuncture.

RESUME

Differentiated approaches to the therapy of abdominal obesity in elderly patients with dyscirculatory encephalopathy associated with type 2 diabetes mellitus have been considered for the first time. Clinical and psychological characteristics of the elderly patients were studied and analyzed, and the anthropometric indices were dynamically evaluated. Various of variants of reflexotherapeutic influence taking into account psychopathological profile were tested and selected in comparison with the standard scheme of therapy.

The research showed that the complex unidirectional impact of the combination of pharmacotherapy with reflexotherapy significantly increased its efficiency the psychoemotional state and clinical symptoms were stabilized, the vegetative symptoms harmonized, the body mass index and the waist ratio in patients of the main groups improved, the a differentiated approach showed reliable values of regression of overweight in the anxietydepressive group when using various reflexotherapy methods, patients with the depressivehypochondriacal profile and with asthenodepressive syndrome showed significant improvement using the combined version of acupuncture and pharmacopuncture. In the control group, there were no significant differences. There was a prolonged effect in the main groups, in comparison with the control group, confirmed by the catamnesis.

Keywords: body mass index, abdominal obesity, chronic cerebral ischemia, discirculatory encephalopathy, reflexotherapy, pharmacopuncture.

INTRODUCTION

In recent years, the problem of obesity and metabolic syndrome (MS) has become extremely urgent. According to WHO, over the past thirty years, the number of people suffering from obesity has doubled in the world. Russia ranks fifth in the world in terms of obesity. The prevalence of MS among middle-aged and older people (45–69 years) according to various criteria ranges from 30 to 54% [1, 2]. In women, MS is 1.6 times higher than in men [2]. In obese individuals, there was a significant increase in the prevalence of type 2 diabetes mellitus compared with individuals with normal body weight [3]. The proportion of people over 60 years of age who are overweight and obese is about 70% [4].

MS is of great clinical importance. Firstly, MS and one of its main manifestations, abdominal obesity in the form of an increase in the ratio of waist to hip volume (WT/HB index) predisposes to the development of arterial hypertension, dyslipidemia, hyperinsulinemia, and impaired glucose tolerance [5], are predictors of atherosclerosis. increase the risk of cardiovascular disease, type 2 diabetes and premature death. Secondly, MS is a reversible condition; changes in lifestyle, diet, weight loss and drug therapy can reduce the severity of its main manifestations [1].

Currently, many countries are conducting research on various methods for correcting the metabolic syndrome and its main pathological system - cell resistance to insulin, the impact on which allows to achieve regression of the key components of MS: increased body weight, arterial hypertension, dyslipidemia, and considerable progress has been made in this direction. successes, including classical acupuncture and the developed fundamentally new technology for influencing reflexotherapy points - pharmacopuncture [6–12].

It is believed that reflexology is built on the principle of multifactorial effects on the patient's body, in this regard, it is assumed that this approach activates the sanogenetic reactions of various functional systems,

controlling, among other things, vascular and metabolic processes [13].

In addition, old age is usually accompanied by polymorbidity [14, 15], the presence of which leads to a drug load on the body. In this regard, the use of non-drug methods of therapy in the elderly patients is of great importance [16, 17, 18].

The aim of this study was to evaluate the effectiveness of acupuncture and pharmacopuncture with antihomotoxic drugs used in the complex rehabilitation treatment of abdominal obesity in patients with dyscirculatory encephalopathy (DE), (assessment of the dynamics of body mass index and the ratio of waist to hip volume) based on the study of the clinical and psychological picture of patients, analysis of instrumental and clinical laboratory studies.

MATERIALS AND RESEARCH METHODS

The study included 127 patients treated in the city center of borderline conditions with a diagnosis of dyscirculatory encephalopathy occurring against the background of type 2 diabetes mellitus.

The inclusion criteria for the study were: age 61–69 years (mean age 65 ± 4.6 years); confirmed diagnosis of DE without a history of stroke; having informed consent. Diagnosis of chronic cerebral ischemia was carried out in accordance with the criteria for the presence of neurological and neuropsychological signs of brain damage, anamnestic, clinical, instrumental signs of cerebral dyscirculation, causal relationships between them, clinical and paraclinical signs of progression of cerebrovascular insufficiency.

Exclusion criteria: the presence of severe dementia, concomitant cardiovascular pathology in the stage of decompensation; blood diseases, insulin-dependent diabetes mellitus.

The treatment groups included patients with grade 1–2 dyscirculatory encephalopathy (DE) complicated by type 2 diabetes mellitus (DM), who were divided into control and main groups, comparable in terms of the main characteristics studied: age, clinical manifestations and their severity, the state of laboratory tests. indicators and picture of the microvasculature, and did not have significant differences.

The control group consisted of 30 patients who received only standard psychopharmacotherapy (PFT); the main group - 97 patients - was divided into three subgroups depending on the reflexotherapeutic methods of treatment in combination with drug therapy (PFT): 1) receiving combined therapy consisting of standard treatment (PFT) and acupuncture (AP) ($n = 34$); 2) combined with pharmacopuncture (FP) with antihomotoxic drugs ($n = 32$); 3) PFT combined with AP and AF ($n = 31$).

In patients, the following symptoms were observed in the clinical picture: headaches and a feeling of heaviness in the head, dizziness, gait disturbance, fluctuations in blood pressure numbers, asthenic phenomena, dyssomnia, emotional lability, noise in the ears and in the head, impaired memory and attention, decreased mental

performance.

A psychological examination using the MMPI test (Minnesota Multiphasic Personality Inventory) revealed 52 patients with anxiety-depressive syndrome, 47 with depressive-hypochondriac syndrome, and 28 with astheno-depressive syndrome. The following patterns of indicators of the MMPI test scales were found: persons with anxiety-depressive syndrome had high values of the F scale and scales 1, 2, 3, 7, 8.

Anthropometric indicators were measured that revealed the type, degree of obesity and the degree of correctable risk factors: body weight, waist circumference (WC), hip circumference (OB), the ratio of waist to hip volume (OT / OB), the body mass index was calculated (BMI) (Quetelet index) according to the formula: $BMI = \text{body weight (kg)} / \text{body height (m)}^2$. Overweight (pre-obesity), BMI = 25-29.9 - increased risk factor; obesity of the first degree, BMI = 30-34.9 - high risk factor; obesity of the second degree, BMI = 35-39.9 - a very high risk factor; obesity of the third degree, morbid, BMI ≥ 40 - an extremely high risk factor.

There was an increase in body mass index (BMI) and the ratio of waist to hips. Obesity of the 2nd degree prevailed in all the studied groups. Laboratory indicators revealed hypercholesterolemia and hyperglycemia.

With the help of modern application programs (Statistica 6.0), statistical data were analyzed. To assess the significance of differences in the results in the study groups, the following were used: the Mann-Whitney test for independent samples, the Wilcoxon test for dependent samples, Student's test for estimating average values.

TREATMENT METHODS

Sick control groups received therapy including antidepressants, tranquilizers, nootropic, vasoactive, hypoglycemic drugs. Patients of the main group received reflexotherapy (RT) along with psychopharmacotherapy (PFT) and antidiabetic drugs. In the 1st subgroup - in the form of acupuncture (AP). When choosing acupuncture points (AT), the general principles of selection and influence on the sanogenetic mechanisms of regulation of lipid, water-salt, and carbohydrate metabolism were taken into account, which contribute to an increase in the hypoglycemic effect, improve the functioning of the large and small intestines, excretory processes, which allow balancing the activity of the brain and the autonomic nervous system, have a sedative effect.

Steel needles were used on points of segmental and general action located in the head, cervical-collar zone, points of the upper and lower extremities. Emphasis was placed on the points of the channels of the heart, pericardium, three heaters, liver, small and large intestines, stomach, pancreas and posterior median canal. Auricular points: 13, 17, 18, 19, 59, 21, 22, 25, 51, 34, 33, 35, 55, 84, 87, 96, 97, 100.

During one session, 3-4 corporal points and 2-3 auricular points were used. The course of treatment consisted of 12-15 sessions every other day.

In the 2nd subgroup, pharmacopuncture (FP) was used. For FP, we used

antihomotoxic drugs (AGTPs) from Biologische Heilmittel Heel GmbH (Baden-Baden, Germany): Traumeel S, Lymphomyosot, Cerebrum compositum.

The therapeutic effect of EP was due to a double effect: a subtle regulatory effect of the drug on the energy state of acupuncture meridians and prolonged stimulation of points, a targeted effect

on the target organs, potentiation of the reflex and drug influence, with the achievement of qualitatively new effects [19, 20, 21]. Injections were performed using an insulin syringe, 0.3–0.5 ml into each AT, first intradermally until a "lemon peel" appeared, then a depot was created at a canonical depth until the sensations provided were created. The duration of the course of treatment was 4 weeks: the first 2 weeks 3 times a week, then - 2 times a week.

AF was performed at the following acupuncture points (AT): T20, T14, VB20, VB21; V11, 14, 43, 60; TR5, 15, 23; GI4, 10, 11, 14; E8, 25, 36; RP6, VC4, at auricular points 55, 17 and 18 (gently, like a subcutaneous injection, so as not to damage the cartilage of the auricle).

In the 3rd subgroup, a combination of AP and FP was used. Pharmacopuncture sessions were conducted three times a week simultaneously with acupuncture sessions.

To determine the effectiveness of treatment methods, clinical manifestations of DE, clinical and psychological characteristics using the MMPI test (Minnesota Multiphasic Personality Inventory) and anthropometric parameters before treatment and on the 25–28th day of therapy were evaluated.

TREATMENT RESULTS

As a result of the study, in the main group, where patients received reflexology (subgroups with AP, AF and AP + AF), there was a statistically significant positive dynamics of clinical (subjective and objective indicators) 4–5 days earlier than in the control group. At the same time, patients in the control group showed side effects of psychopharmacotherapy in the form of general weakness, drowsiness, increased dizziness, dry mouth, and dyspeptic symptoms. By the 6th–8th session, dyssomnic manifestations, fatigue, and emotional lability decreased in the main group. In the main group, the positive trend was more stable, the dynamics of psycho-emotional indicators in the MMPI tests revealed a decrease in the indicators of the "neurotic triad".

In the group of patients with anxiety-depressive syndrome in the MMPI tests, the profile type did not change (Fig. 1). During the treatment in all groups there was a decrease in the scales of the "neurotic triad", but in the main subgroups the dynamics of indicators 1, 2 and 3 of the scales was more significant and had statistically significant differences ($p < 0.05$). It was noted that when using different methods of RT, in addition to a significant decrease in the scales of the neurotic triad, the 7th scale significantly decreased in the AP group, the F scale in the AF group, and the F, 6 and 7 scales statistically significantly decreased in the AP + AF group, which correlated with a significant improvement in psycho-emotional state.

Under the influence of complex therapy in persons with depressive-hypochondriac

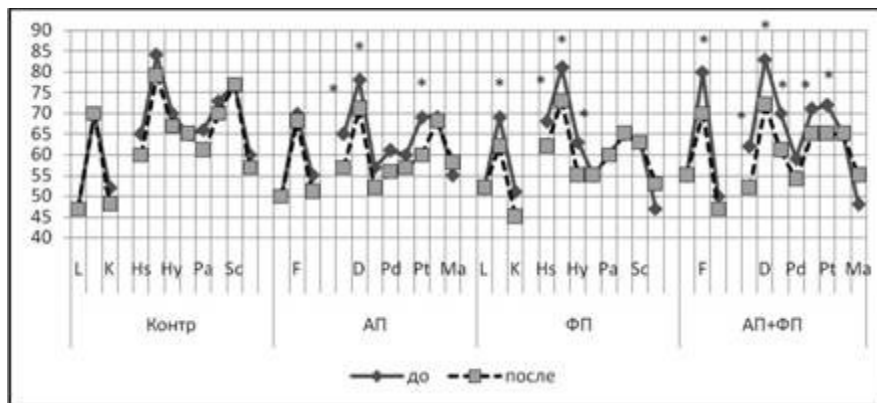
syndrome in MMPI tests also did not change the profile type (Fig. 2). Against the background of treatment in all groups, both control and main, there was a decrease in the indicators of the "neurotic triad". In the group treated with AP, the F, 1, 2, and 7 scales showed a significant decrease ($p < 0.05$). In the AF group, the F, 1, 2, 3, 7 scales reached a statistically significant difference ($p < 0.05$). In the AP + AF group, there was a statistically significant decrease in the F, 1, 2, 3, 6, 7, and 9 scales, which indicated a significant improvement in the emotional state during combined therapy. In the control group, the value of the scales F, 2, 7 decreased, however, the 2 and 7 scales remained at high rates.

As a result of complex therapy in the group of patients with asthenodepressive syndrome in MMPI tests, the profile type did not change (Fig. 3). On the background of treatment in all groups there was a decrease in the scales of the "neurotic triad", however, the dynamics of indicators of scales 1, 2 and 3 in the main subgroups was more significant and had statistically significant differences ($p < 0.05$). When using different methods of RT, in addition to a significant decrease in the scales of the neurotic triad, the 7th and 8th scales significantly decreased in the AP group, the scales 4, 7, 8 in the AF group, and the F, 6 and 7, 8 scales statistically significantly decreased in the AP + AF group, which reflected a significant improvement in the psycho-emotional state.

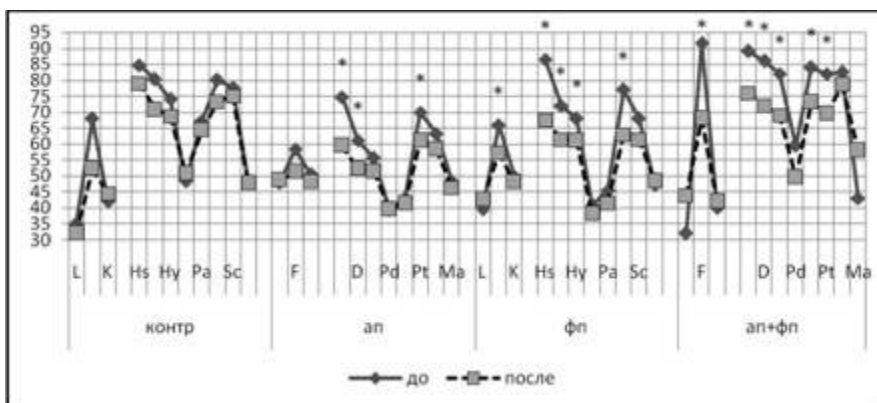
After the treatment, there was statistically significant positive dynamics of abdominal obesity in the main subgroups that received complex therapy, analysis of the level of BMI showed a more significant decrease in the AP, AF and AP + AF groups ($p < 0.05$) than in the group receiving only PFT (Fig. 4).

Against the background of therapy, there was a statistically significant positive dynamics of anthropometric parameters in the main groups receiving complex treatment; who received only PFT (Fig. 6).

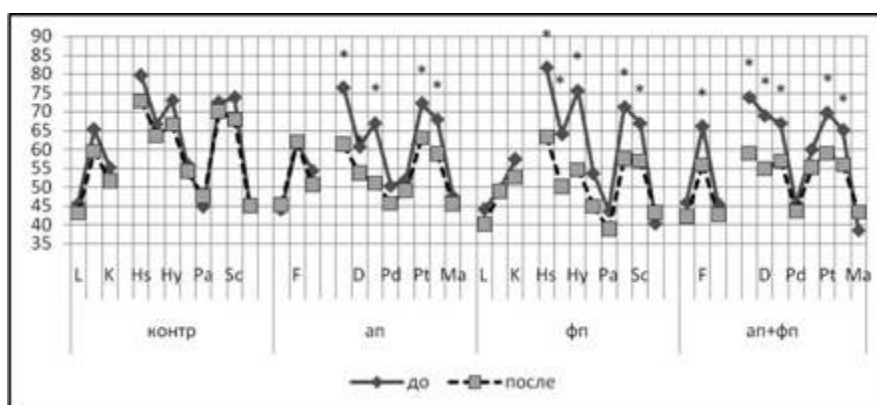
In the course of treatment, patients with anxiety-depressive syndrome experienced statistically significant changes in the dynamics of BMI and the ratio of OT / OB in the main RT groups compared with the control group ($p < 0.05$).



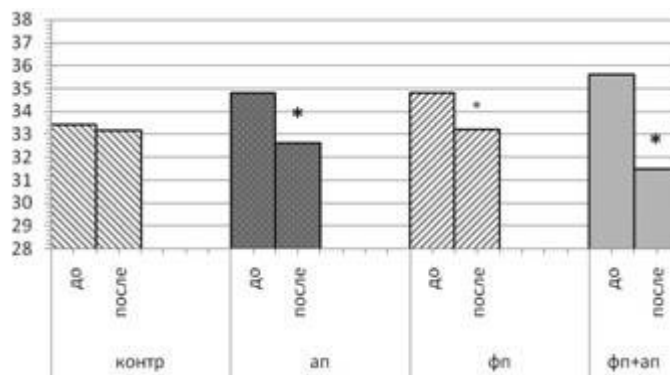
Rice. 1. Comparison of MM profilesPI patients of the control and main groups (AP, AF and AP + AF) with anxiety-depressive syndrome before and after treatment (*- $p < 0.05$).



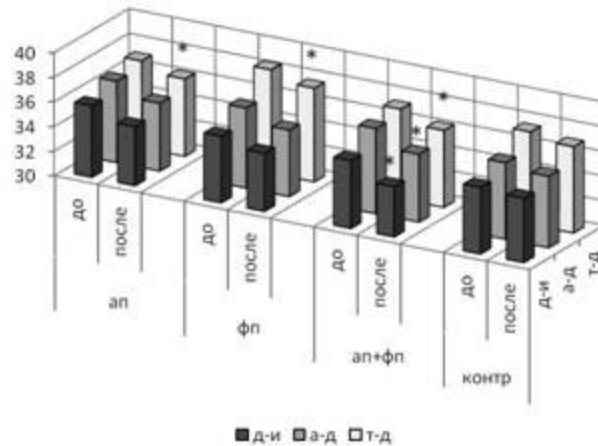
Rice. 2. Comparison of MM profiles PI patients of the control and main groups (AP, AF and AP + AF) with depressive hypochondriacal syndrome before and after treatment (*- p < 0.05).



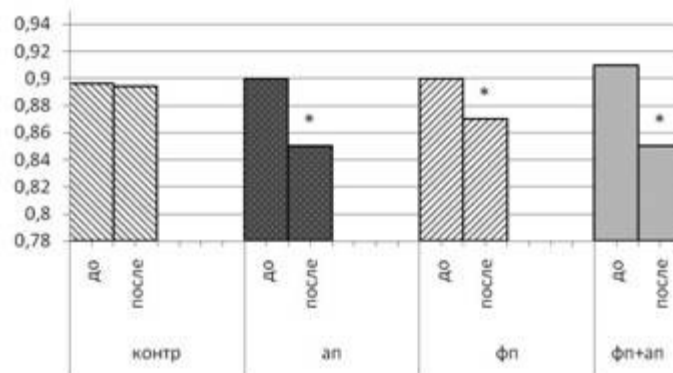
Rice. 3. Comparison of MM profiles PI patients of the control and main groups (AP, AF and AP + AF) with astheno-depressive syndrome before and after treatment (*- p < 0.05).



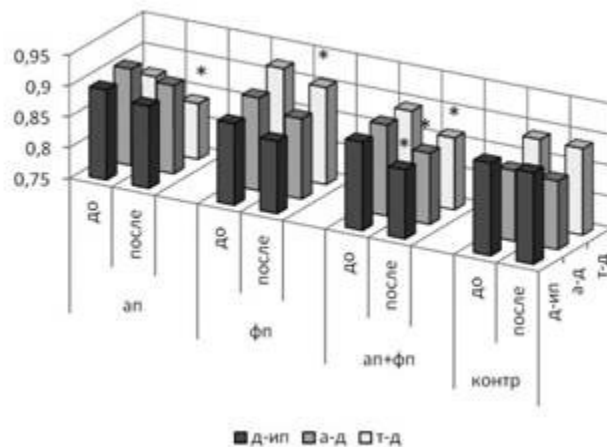
Rice. 4. Dynamics of BMI indicators in the control and main (ап - group with using acupuncture, фп - group using pharmacopuncture, фп + ап - combination of pharmacopuncture and acupuncture) groups during treatment (*- p < 0.05).



Rice. 5. Dynamics of the level of BMI in the main and control groups with different psychopathological syndromes (* - $p < 0.05$) (t-d - anxiety-depressive, d-i - depressive-hypochondriac, a-d - astheno-depressive syndromes).



Rice. 6. Dynamics of indicators of the ratio OT / OB in the control (counter) and main groups (ap - group with the use of acupuncture, FP - group with the use of pharmacopuncture, FP + AP - combination of pharmacopuncture and acupuncture) during treatment (*- $p < 0.05$).



Rice. 7. Dynamics of indicators of the ratio of OT / OB in the main and control groups with various psychopathological syndromes (* - $p < 0.05$) (t-d -

anxious-depressive, d-ip - depressive-hypochondriac, a-d - astheno-depressive syndromes).

During treatment, patients with depressive-hypochondriacal syndrome showed a statistically significant positive dynamics of anthropometric parameters in the main groups receiving complex treatment, analysis of the level of BMI and indicators of the OT / OB ratio showed a more significant decrease in the AP, AF and AP + AF groups ($p < 0.05$) than in the PFT-only group. When comparing RT of groups treated with acupuncture, pharmacopuncture, and a combination of AP and AF, the greatest effect was observed in the AP + AF group ($p < 0.05$) compared with the use of AP alone or AF alone.

After the therapy, patients with asthenodepressive syndrome also showed positive changes in physical parameters: statistically significant changes in BMI and WC/RT ratio in the main groups compared with the control group ($p < 0.05$). When comparing RT methods, a statistically more pronounced dynamics was noted in the group combining AP + AF ($p < 0.05$) (Fig. 5, Fig. 7).

THE DISCUSSION OF THE RESULTS

The data obtained indicated the effectiveness of acupuncture, pharmacopuncture and a combination of acupuncture and pharmacopuncture in abdominal obesity in elderly patients with discirculatory encephalopathy. Assessing the contribution of each method of reflexology in achieving a reduction in excess body weight, it should be noted that acupuncture reduced BMI by 6.3%, pharmacopuncture by 4.6%, with the combined method BMI decreased by 11.5%.

Comparing groups on leading psycho-pathological syndrome a statistically significant positive trend in the decrease in body mass index and the ratio of waist to hip volume during treatment was observed in all subgroups of anxiety-depressive, depressive-hypochondriac and astheno-depressive groups compared with the control group ($p < 0.05$). A significantly more significant decrease in the metabolic syndrome was observed in patients with leading depressive-hypochondriac (BMI decreased by 4%) and astheno-depressive (BMI decreased by 3.8%) syndromes when using a combination of AP + AF compared with the effects of acupuncture or pharmacopuncture alone on these patient groups. Such changes indicated a potentiation of the therapeutic effect when acupuncture and pharmacopuncture were combined with antihomotoxic drugs.

In addition, there was a positive effect on the psycho-emotional status, expressed in a decrease in the so-called. "neurotic triad". Analysis of statistical data showed that the psycho-emotional state of patients in the anxiety-depressive subgroup improved when exposed to various methods of reflexology. At the same time, the use of acupuncture and pharmacopuncture in combination significantly affected the normalization of the emotional state of patients with depressive hypochondriasis and asthenodepressive disorders.

syndromes.

The data of our study are consistent with the conclusions of domestic and foreign authors on overweight reflexology [22, 7].

Acupuncture, in combination with dietary restriction, has been found to be effective in reducing weight and reducing obesity-related risk factors such as dyslipidemia. These effects can be achieved in other ways, but due to the lack of adverse effects after therapy, acupuncture can be used as a suggested, recommended, or synergistic treatment option for obesity. In addition, it has been found to have immunomodulatory but no anti-inflammatory effects [6]. Our work has shown the possibility of treating abdominal obesity with reflex therapy in elderly patients with dyscirculatory encephalopathy in the context of psychopathological characteristics.

CONCLUSIONS

1. The proposed method of treatment can indeed be considered as effective, safe for the correction of the most important components of dysmetabolic disorders in elderly patients with dyscirculatory encephalopathy. There was a significantly significant improvement in the main groups of BMI indices and indicators of the ratio of OT / OB compared with the control group.
2. Clinical and psychological correlations with metabolic disorders in elderly patients with discirculatory encephalopathy. High body mass index values were in the anxiety-depressive group.
3. Methods of differentiated treatment of patients have been developed elderly, depending on the comorbid psychopathological symptom complex. So, for persons with anxiety-depressive syndrome, any method of RT should be used to correct metabolic disorders, for depressive-hypochondriacal disorders, a combination of AP + AF should be preferred, and for astheno-depressive patients, the combination of AP will be optimal.
+ FP.
4. Methods have been developed for combining reflexotherapy and pharmacopuncture with antihomotoxic drugs.
5. According to follow-up data, in groups receiving complex treatment (RT + PFT), there was a more persistent effect of lowering BMI, and there was no weight gain at follow-up. When re-treatment after six months and a year later, in patients of the main group, the BMI level indicator did not tend to increase in values compared to the initial one, on the contrary, in the control group, the values of BMI indicators increased.

PRACTICAL RECOMMENDATIONS

1. To improve the effectiveness of treatment and reduce side effects psychopharmacotherapy in the complex treatment of abdominal obesity in elderly patients with dyscirculatory encephalopathy associated with

type 2 diabetes mellitus, it is recommended to use acupuncture and pharmacopuncture with antihomotoxic drugs.

2. Take into account the data when examining and treating patients psychopathological profile of the patient's personality.

3. This study allowed for a differentiated approach to treatment metabolic disorders in patients of various psychopathological profiles. So, for astheno-depressive and depressive-hypochondriac patients, it is preferable to use a combination of acupuncture and pharmacopuncture, for anxious-depressive patients - both acupuncture and pharmacopuncture or a combination of them.

4. To reduce body weight, it is advisable to use corporal and auricular points of general and local action. To do this, it is recommended to use points that have the greatest impact on the sanogenetic mechanisms of regulation of water-salt, lipid and carbohydrate metabolism, contributing to an increase in the hypoglycemic effect and stabilization of the cardiovascular system. The main points of choice in the corporal technique were the points of the channels of the heart, pericardium, three heaters, liver, small and large intestines, stomach, pancreas and posterior median canal. Auricular points: 17, 18, 22, 25, 51, 34, 55, 84, 87, 96, 97.

5. In order to influence psychopathological symptoms, it is recommended include corporal and auricular points of general action in the reflexotherapeutic scheme. For this, points were used that positively affect the psychological status of the patient, the stabilization of the work of the autonomic and cardiovascular systems. The emphasis was on auricular points: 13, 19, 59, 21, 22, 51, 34, 33, 35, 55, 25, 100.

Acupuncture points and their combinations were chosen in such a way as to achieve the elimination or significant reduction of the symptoms of diabetes mellitus, the reduction of concomitant metabolic disorders, and the improvement of the general psycho-emotional state of the patient.

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Mikhailova, A.A. A differentiated approach to the treatment of abdominal obesity in elderly patients with dyscirculatory encephalopathy / A.A. Mikhailova, N.P. Smirnova // Traditional medicine. - 2017. - No. 3 (50). - P.9-16.

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