

The role of vegetative-immuno-endocrine disintegration in the patho- and sanogenetic mechanisms of ischemic disorders of cerebral circulation according to data vegetative resonance test

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Introduction

Ischemic disorders of cerebral circulation (IICI) are the most important medical and social problem. On average, in Russia, annually from 400-450 thousand to 500 thousand cerebral strokes are recorded, of which 80-85% are ischemic (10% end fatally, 90% of those who survived are disabled of varying degrees, 75% of patients have persistent disability, 10% noted independent recovery, 10% - rehabilitation measures are futile, 80% can be effective rehabilitation measures) [1, 2, 6, 10, 11].

At present, the problem of diagnosing the general condition of a patient with IUD remains relevant, as well as identifying the prerequisites for the occurrence of IUD and the possibility of prevention of IUD occurrence [7, 8, 9].

The state of the endocrine, immune, autonomic nervous systems, adaptation reserves, the presence of a psychological load in a patient with IUD is important for the development of rehabilitation programs, evaluating the effectiveness of treatment methods, and identifying the "risk group of patients for the occurrence of IUD."

The aim of this study was to identify the role of the immune, endocrine, autonomic nervous systems, adaptation reserves, psychological stress in the patho- and sanogenetic mechanisms of ILI, and to identify correlations in pairs in patients with ILI.

Materials and research methods

253 patients with IUD were examined by the method of random sampling. The study was carried out in the conditions of the department of rehabilitation treatment of the MLPU GKB No. 1, Novokuznetsk.

Study inclusion criteria: ischemic stroke in the recovery period; discirculatory encephalopathy (according to the classification of N.N. Yakhno, which corresponds to chronic cerebral ischemia according to ICD-10).

Exclusion criteria: hemorrhagic stroke; subarachnoid hemorrhage; inflammatory and autoimmune vascular diseases.

Exclusion criteria: refusal to be examined.

253 patients with IUD were examined. Number of men- 120 and women - 133. The average age of men was 56.92 ± 4.52 years, women - 59.24 ± 4.26 years. The proportion of nosological forms in them was: with discirculatory encephalopathy was $23.52 \pm 3.63\%$, cerebral infarction - $76.46 \pm 3.64\%$; by the degree of clinical manifestations: 2.55 ± 0.32 degrees; in terms of duration after an acute disturbance, the period was 5.61 ± 0.52 months. The number of men (120) and women (133) in the total sample was the same (ratio 1: 1.1). The average age of men was 56.92 ± 4.52 years, women - 59.24 ± 4.26 years. The overwhelming majority of patients (210 people) were over 50 years old. The following instrumental and clinical research methods were used, carried out to all patients with IUD according to a single scheme: clinical neurological examination, vertebro-neurological examination, manual testing, computed tomography, Doppler indices, psychological testing, vegetative resonance testing [3, 4, 5], statistical research methods. To confirm the diagnoses, data from laboratory and paraclinical research methods (EEG, USDG,

REG, CT, MRI, X-ray examination).

Research results

Among surveyed recovery period, dis

there were 253 patients with ischemic stroke in circulatory encephalopathy according to the classification of N.N. Yakhno,

which corresponded to chronic cerebral ischemia according to ICD-10. When assessing the neurological status, the dominant complaints were: dizziness in $93.68 \pm 1.52\%$, headache in $88.14 \pm 2.03\%$, general weakness in $88.93 \pm 1.97\%$, sleep disturbance in $81.42 \pm 2.44\%$, weakness in the arm and leg in $70.75 \pm 2.85\%$, noise in the head in $73.52 \pm 2.77\%$, low mood in $39.53 \pm 3.07\%$ of cases. Most complaints were significantly more frequent in women ($P < 0.05$). The exception was complaints of weakness in the arm and leg, which were more common in men ($P < 0.05$). One of the most typical complaints was headache, which was experienced by 222 patients. Depending on the location, the headache was diffuse in $31.62 \pm 3.12\%$, local, turning into diffuse, in $37.55 \pm 3.25\%$, in the occipital region in $23.72 \pm 2.85\%$, in the occipital-temporo-frontal region in $32.02 \pm 3.13\%$. The quantitative assessment of headache according to VAS revealed an average degree of headache intensity in men - 9.83 ± 0.16 points, for women - 9.10 ± 0.36 points, ($P > 0.05$). In patients of the main group, the intensity of headache was 9.71 ± 0.17 points, in the control group - 9.22 ± 0.11 points.

Walking disorders were noted in 245 patients ($96.83 \pm 1.10\%$). In men, the hemiparetic gait was significantly more common, in women - the vestibulo-atactic gait ($P < 0.05$). Frontal and cerebellar ataxia was detected in 17 patients with no significant difference in men and women ($P > 0.05$).

In 221 patients there was a violation of the posture. Flexion posture was more often detected - in $68.77 \pm 2.91\%$. The second most frequent position was taken by the Wernicke-Mann posture - in $17.79 \pm 2.40\%$. In the examined patients with ischemic impairment of cerebral circulation in the recovery period, a combination of several syndromes was revealed. The overwhelming the majority sick were noted vestibulo-atactic ($93.68 \pm 1.52\%$), asthenoneurotic ($83.79 \pm 2.31\%$), dyssomnic (81.54 hemiparetic $\pm 2.43\%$), central ($72.73 \pm 2.79\%$) syndromes. $20.55 \pm 2.54\%$ have psi choorganic syndrome. Cerebellar hemisindrome (4.35 ± 1.28) and epileptiform syndrome ($1.45 \pm 0.75\%$). According to the frequency of cerebellar hemisindrome, asthenoneurotic, psychoorganic syndrome, sex dependence was not revealed. Dyssomnic and vestibulo-atactic syndromes were significantly more common in women ($P < 0.05$), pyramidal hemiparesis was significantly more common in men ($P < 0.05$). Along with symptoms caused by organic brain damage, including in the form of neurosis-like and psychoorganic syndromes, all patients had pathological personality reactions to the disease. The reaction of patients to the occurrence of impaired cerebral circulation in the recovery period was manifested in the form of depression, anxiety.

65 patients ($25.69 \pm 2.74\%$) complained of memory loss. Research into the process of memorization revealed a decrease in the limit of memorization. According to the results of the examination, a rigid memory curve was determined.

In the process of diagnostics using the method of vegetative resonance test, it was found that biological indices were significantly higher than optimal for a given calendar age in all patients. The data of adaptation reserves in men amounted to 6.89 ± 0.86 , in women - 7.05 ± 0.87 , which corresponded to low 4-3 degrees of adaptation reserves. The index of the degree of adaptation reserves was statistically significantly lower than in healthy people, $P < 0.05$. The average data of the psychological load of the examined group of patients were 4.23 ± 0.38 in men, 4.54 ± 0.27 in women; $P < 0.05$. Psychological load was detected in all patients with ILI at the same level without significant differences in terms of gender. All patients had uncompensated metabolic blockade. For men, they were 7.91 ± 0.39 , for women - 8.43 ± 0.42 ; $P > 0.05$.

Table 1 shows that when studying the immune, endocrine, and autonomic systems, all patients with ILI showed signs of 1-5 degree depletion of the immune and endocrine systems in combination with signs of tension of the autonomic nervous system of 1-4 degrees.

Table 1

Distribution of patients by degrees of depletion of the immune system, endocrine system and the degree of VNS tension, % \pm m

Degrees of depletion (voltage)	Systems		
	IP n = 253	ES n = 253	VNS n = 253
one	5.53 ± 1.43	0.79 ± 0.55	1.98 ± 0.87
2	27.27 ± 2.79	18.97 ± 2.46	18.58 ± 2.44
3	43.48 ± 3.11	36.76 ± 3.03	41.11 ± 3.09
4	20.95 ± 2.55	36.76 ± 3.03	38.34 ± 3.05
five	2.77 ± 1.03	6.72 ± 1.57	-
Total	100	100	100

According to Pearson's criterion, pairwise correlations were calculated between the parameters of the initial states, the immune, endocrine systems, adaptation reserves, and the tension of the autonomic nervous system according to the data of autonomic resonance testing. The calculation results showed that the correlation coefficients did not exceed 0.3, therefore, there was no correlation dependence and none of the systems was dominant in relation to the others, pathological disorders occurred in a complex manner.

Summary. Thus, in patients with ILI in the recovery period with leading clinical syndromes: vestibulo-atactic, asthenoneurotic, dyssomnic, pyramidal hemiparesis, psychoorganic, cerebellar hemisindrome, epileptiform, it was found that all patients with ILI in the recovery period had depletion of the immune and endocrine systems (1–5 degrees) and tension of the autonomic system (1–4 degrees). Biological indices are higher than optimal for a given calendar age ($P < 0.05$). The indices of adaptation reserves of patients with ICI are significantly lower ($P < 0.05$). Disorders of the immune, endocrine, autonomic systems, a decrease in adaptation reserves, an increase in mesenchyme blockade took place in the body of a patient with IUD simultaneously.

Thus, patients with depletion of the immune, endocrine, autonomic nervous systems, reduced adaptation reserves, high psychological stress and mesenchymal blockade, regardless of age, are at risk for the occurrence of IUD.

The results of diagnostics by the method of vegetative resonance test make it possible to include in the comprehensive program of primary examination of patients with IUI in the acute period, in the process of rehabilitation measures, as well as during preventive measures aimed at timely identification of the "risk group for the occurrence of IUI".

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