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**ОСОБЕННОСТИ КЛИНИЧЕСКИХ ПРОЯВЛЕНИЙ
ХРОНИЧЕСКОЙ ИШЕМИИ МОЗГА**

Title of the article in the Uzbek language:

**СУРУНКАЛИ БОШ МИЯ ИШЕМИЯСИ КЛИНИК
БЕЛГИЛАРИНИНГ ХУСУСИЯТЛАРИ**

PECULIARITIES OF CLINICAL MANIFESTATIONS OF CHRONIC CEREBRAL ISCHEMIA

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Калит сўзлар: сурункали мия ишемияси, артериал босим, атеросклероз.

АННОТАЦИЯ

Цель: оценка субъективных и объективных проявлений у больных с хронической ишемией мозга в зависимости от ее генеза. Материал и методы: изучены субъективные и объективные симптомы у 237 больных с хронической ишемией мозга (ХИМ), которые в зависимости от патогенеза заболевания были разделены на 2 группы: 1-я группа 115 больных с ХИМ на фоне гипертонической болезни, 2-я группа 122 больных с ХИМ на фоне церебрального атеросклероза. Результаты: субъективные симптомы у пациентов с ХИМ гипертонического генеза существенно отличались от таковых у больных с ХИМ атеросклеротического генеза. Различий в объективной симптоматике между ХИМ гипертонического и атеросклеротического генеза не выявлено. Выводы: различия клинической симптоматики психоневрологических расстройств у больных с ХИМ атеросклеротического и гипертонического генеза необходимо учитывать при назначении лечебно-профилактических мероприятий.

АННОТАЦИЯ

Мақсад: Сурункали мия ишемиясига чалинган беморларда унинг пайдо бўлиши га қараб субъектив ва объектив белгиларини аниқлаш ва баҳолаш. Материал ва усуллар: 237 та СМИ билан оғриган беморларда субъектив ва объектив симптомларнинг текширув материали. Барча беморлар патогенези ривожланишига қараб 2 гуруҳга бўлинган эди. 1-гуруҳ гипер-тоник касаллик фонидаги СМИ билан оғриган 115 та бемордан иборат. 2-гуруҳга церебрал атеросклероз фонидаги СМИ билан оғриган 122 та бемор кирди. Натижа: гипертоник генези СМИси бор беморлар билан атеросклероз генезли СМИси бор беморлар таққосланганда субъектив симптомларнинг сезиларли фарқлари аниқланди. Объектив анализлар на-тижаси СМИнинг гипертоник ва атеросклеротик генези орасида фарқ аниқланмаганлигини кўрсатди. Хулоса: СМИ атеросклеротик ва гипер-тоник генезли беморлар психоневрологик бузилишларнинг клиник симпто-матикасида фарқлар аниқланди, буни даво-профилактик чораларини қўл-лаида ҳисобга олиш керак.

ABSTRACT

To determine and evaluate subjective and objective manifestations in patients with chronic cerebral ischemia, depending on the genesis of its development. Materials and Methods: Were studied subjective and objective symptoms in 237 patients with chronic cerebral ischemia (CCI). Depending on the pathogenesis of development, all patients were divided into 2 groups: 1 group -consisted from 115 (48.5%) patients with CCI on the background of hypertensive disease, 2 group - 122 (51.5%) patients with CCI on the background of cerebral atherosclerosis. Results: There were significant differences in subjective symptoms of patients with CCI of hypertensive genesis and those with CCI of atherosclerotic genesis, while there were no differences in their objective symptoms. Conclusions: Differences in the clinical symptomatology of psychoneurological disorders in patients with CCI of atherosclerotic and hypertensive genesis have been revealed, which must be taken into account when conducting therapeutic and prophylactic measures.

Article info

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Key words: chronic cerebral ischemia, blood pressure, atherosclerosis.

Relevance. In recent years, the structure of cerebral vascular diseases is changing due to the growth of ischemic forms [1,3,5]. This is due to an increase in the proportion of arterial hypertension and atherosclerosis, as the main cause of cerebrovascular pathology [1,3,6]. One of the central places in the study of cerebrovascular pathology belongs to the problem of chronic cerebral ischemia (CCI) [2, 4, 5, 10]. The earliest and most common manifestation of chronic cerebral ischemia (CCI) is cognitive impairment [3,8]. So, according to A.B. Lokshina and N.N. Yakhno, cognitive disorders are present in almost 90% of cases already in the I-II stage of CCI [6,9]. In this case, violations of cognitive functions are a sufficiently reproducible symptom of CCI, that is, in repeated studies they have the same manifestations, even if the studies are carried out by different specialists [2,5]. This is a significant difference in the violations of cognitive functions from other objective neurological symptoms of early stages of CCI, the reproducibility of which is small. Therefore, at the present time there is a firm belief that it is the identification of disorders of cognitive functions characterized by a number of specific features that has the greatest diagnostic value in patients with CCI [1,4,7].

Purpose of the study: to determine and evaluate subjective and objective manifestations in patients with chronic cerebral ischemia, depending on the genesis of its development.

Material and methods of the study. The clinical-neurological examination was performed in 237 patients with CCI. All patients were divided into 2 groups. 1 group consisted from 115 (48.5%) patients with chronic cerebral ischemia, which developed mainly against the background of hypertensive disease. Group 2 included 122 (51.5%) patients with chronic cerebral ischemia, which developed mainly on the background of cerebral atherosclerosis. According to the classification of AH according to the level of blood pressure in accordance with the recommendations of the Russian Society for Arterial Hypertension and the All-Russian Scientific Society of Cardiology (3rd revision, 2008), we divided the patients of group 1 into 3 subgroups: AH - I degree (SBP 147.5 ± 1.6 mm Hg, DBP - 93.4 ± 1.1 mm Hg, pulse - 85.0 ± 0.8 beats per minute) was detected in 53 patients (42,7%), AH-II degree (SBP - 163.1 ± 1.5 mm Hg, DBP - 100.4 ± 1.6 mm Hg, pulse - 88.6 ± 1.1 beats per minute.) - in 56 (45.2%), AH-III degree (SBP - 184.7 ± 4.8 mmHg, DBP - 110.7 ± 3.6 mmHg, pulse - 88.9 ± 3.4 beats per minute) in 15 (12.1%) patients.

Results and its discussion. The main, more frequently presented subjective complaints among the patients examined were: headache, dizziness, noise in ears, decreased memory and attention, emotional disturbances, decreased working capacity.

In the analysis of complaints, it was found that 112 (97.4%) patients of the 1st and 98 (80.3%) - the 2nd group ($P < 0.001$) had headache, dizziness of non-systemic nature was observed in 99 (86, 1%) patients 1 st and 72 (59.0%) - 2 nd group ($P < 0.001$). Sleep disorders were met respectively in 94 (81.7%) and 69 (56.6%) patients ($P < 0.001$). Noise in the ears were noted by 48 (39.3%) patients of the 2nd and 87 (75.7%) patients of the 1st group ($P < 0.001$). 105 (91.3%) patients of the 1st and 85 (69.7%) patients of the 2nd group ($P < 0.001$) complained of fatigue, 103 (89.6%) and 94 (77, 0%) of the examined patients complained to decreased working capacity ($P < 0.05$). A decrease in memory was observed in 110 (95.7%) patients of the 1st and 97 (79.5%) - the 2nd group ($P < 0.01$), decreased attention in 109 (94.8%) and 92 (75.4%) patients respectively ($P < 0.001$) (Table 1).

Subjective symptoms were reliably more frequent in patients of the 1st group, whose headaches were more often localized in the occipital region with the appearance of a compression sensation, lumbent or dull pain, faintness or nausea, nonsystemic dizziness, darkening in the eyes, «black flies» before the eyes, blanching skin integument. All these symptoms indicate a spasm of the arteries, that is, an increase in the tone of the arterial walls, in which local ischemia and tissue hypoxia occur. In the development of such a headache, not only the spasm of the walls of the arteries plays a role, but also the concomitant edema of the vascular tissue and ischemic tissue hypoxia (secondary (vascular) headache).

Of all subjective complaints, the most common was headache, in connection with which we conducted her assessment according to the VAS scale (Table 2).

Table 1

Subjective symptoms in the examined patients

Complaint	1 group (n=115)		2 group (n=122)		P
	abs.	%	abs.	%	
Headache	112	97,4±1,5	98	80,3±3,6	<0,001
Dizziness	99	86,1±3,2	72	59,0±4,5	<0,001
Sleep disorders	94	81,7±3,6	69	56,6±4,5	<0,001
Noise in ears	87	75,7±4,0	48	39,3±4,4	<0,001
Decreased memory	110	95,7±1,9	97	79,5±3,7	<0,01
Fatigue	105	91,3±2,6	85	69,7±4,2	<0,001
Decreased working capacity	103	89,6±2,9	94	77,0±3,8	<0,05
Decreased attention	109	94,8±2,1	92	75,4±3,9	<0,001

The analysis showed that in patients of the 1st group, the pain syndrome according to the VAS is 7.2 ± 0.1 points, in the second group - 4.8 ± 0.1 points ($P < 0.001$). It turned out that in patients with CCI of hypertensive genesis, i.e. in patients of group 1, the pain syndrome according to the VAS was more pronounced, which is associated with an increase in blood pressure.

Table 2

Index	1 group (n=115)	2 group (n=122)
severity of headache according to VAS score	7,2±0,1***	4,8±0,1***

Note: * - Reliably relatively with reference to the control group (***) - $P < 0.001$; - the differences between group 1 and 2 data are reliable (^^) - $P < 0.001$.

Next, we examined the patients for the presence of focal neurological symptoms for the diagnosis of CCI (Table 3).

The central paresis of the VII pair of cranial nerves was observed in 93 (80.9%) patients of the 1st and 98 (80.3%) - the 2nd group. The central paresis of the XII pair of cranial nerves was met respectively in 86 (74.8%) and 92 (75.4%) patients. Anisoreflexia was observed in 83 (72.2%) patients of the 1st and 86 (70.5%) - the 2nd group. Decrease in convergence, accommodation weakness were found in 80 (69.6%) patients of the 1st and 88 (72.1%) - the 2nd group. Reflexes of oral automatism were observed respectively in 96 (83.5%) and 107 (87.7%) patients. The instability in the Romberg pose was diagnosed in 89 (77.4%) patients of the 1st and 102 (83.6%) - the 2nd group. Intention in the finger-nasal test was found in 76 (66.1%), and intention at the heel-knee test was in 42 (36.5%) patients of the 1st group. In 82 (67.2%) patients of the 2nd group, intention was observed in the finger-nasal sample, and in 31 (25.4%) patients with intention at the heel-knee test.

Table 3

Objective symptoms in the examined patients

Index	1 group (n=115)		2 group (n=122)		P
	abs.	%	abs.	%	
The central paresis of the VII pair of cranial nerves	93	80,9±3,7	98	80,3±3,6	>0,05
The central paresis of the XII pair of cranial nerves	86	74,8±4,0	92	75,4±3,9	>0,05
Anisoreflexia	83	72,2±4,2	86	70,5±4,1	>0,05
Decrease in convergence, accommodation weakness	80	69,6±4,3	88	72,1±4,1	>0,05
Reflexes of oral automatism	96	83,5±3,5	107	87,7±3,0	>0,05
The instability in the Romberg pose	89	77,4±3,9	102	83,6±3,4	>0,05
Intention in the finger-nasal test	76	66,1±4,4	82	67,2±4,3	>0,05
Intention at the heel-knee test	42	36,5±4,5	31	25,4±3,9	<0,05

CONCLUSIONS

1. Significant differences in subjective symptoms such as headache, dizziness, decreased attention and memory, as well as irritability and fatigue, are found in patients with CCI of hypertensive genesis compared with CCI of atherosclerotic genesis.

2. It can also be noted a faster rate of increase in psychoneurological disorders in patients with CCI of hypertensive genesis, which is associated with an increase in blood pressure.

References

1. Azizova O.A., Solovyeva E. Yu., Aseichev A.V. etc. Interrelation of markers of oxidative stress with clinical course of chronic cerebral ischemia // Journal. neurol. and a psychiatrist, named after S. S. Korsakov. - 2013. - No. 9. Issue. 2. - P. 21-27.
2. Belova L.A. Ultrasound diagnosis of hypertensive encephalopathy from the position of the systemic approach (review of the literature) // Clinical physiology of blood circulation. - 2010. - №2. - P. 12-15.
3. Vorobyeva E.N., Schumacher G.I., Nechunayeva E. V., Horeva M.A., Vorobyev R.I., Simonova O.G., Batanina I.A. Clinical and immunological features of early stages of chronic cerebral ischemia // Abstracts and reviews of the 5th Interregional Scientific and Practical Conference on Related Issues in Neurology and Neurosurgery // Actual Questions of Neurology. - Novosibirsk. - 2008. - P. 16-17.
4. Gavrilyuk O.V., Belova L.A., Belova N.V., Mashin V.V. Dynamics of quality of life and adherence to antihypertensive therapy in patients with hypertensive encephalopathy // Palliative medicine and rehabilitation. 2011. - №1. - P. 28-30.
5. Gusev E.I., Konovalov A.N., Skvorcova V.I. etc. Chronic insufficiency of cerebral circulation // Neurology - National leadership. - Moscow: GEOTAR-Media, 2010. - P. 637-654.
6. Dadasheva M.N., Kasatkin D.S., Vishnyakova T.I. and others. Cognitive disorders in patients with arterial hypertension: early diagnosis, the possibility of optimizing pharmacotherapy // Consilium medicum. - 2011.- Vol.13, No. 9.- P.78-82.
7. Bolanle M. Famakin. The Immune Response to Acute Focal Cerebral Ischemia and Associated Post-stroke Immunodepression: A Focused Review // Aging and Disease, 2014. № 5(5). P. 307–326.
8. Elkind M. S. V., Luna J. M., Coffey C. S. The levels of inflammatory markers in the treatment of stroke study (limits): inflammatory biomarkers as risk predictors after lacunar stroke. // International Journal of Stroke. - 2010.- Vol. 5, №2. - P. 117–125.
9. Hanisch U.K. Microglia as a source and target of cytokines // Glia. - 2002. – Vol. №40. P. 140–155.
10. Kraft P., Drechsler Ch., Schuhmann M.K., Gunreben I., Kleinschnitz Ch. Characterization of Peripheral Immune Cell Subsets in Patients with Acute and Chronic Cerebrovascular Disease: A Case-Control Study // Int. J. Mol. Sci. - 2015. - Vol 16(10). - P. 25433-25449.