

**Pathogenetic features of the current and the main reasons for ischemic injury
of the brain at persons of young age**

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**Патогенетические особенности течения и основные причины ишемического
повреждения головного мозга у лиц молодого возраста**

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Abstract: *the ischemic stroke at persons of young age is one of actual problems in a modern angioneurologiya. An objective of this research was studying of features of the reasons and the course of an ischemic stroke at persons of young age (till 45 years). Research was conducted on the basis of office of neurology № 1 of SBEH Scientific Research Institute Regional hospital № 1 of the professor Ochapovsky. It was applied a method of the retrospective analysis.*

Аннотация: *ишемический инсульт у лиц молодого возраста является одной из актуальных проблем в современной ангионеврологии. Целью данного исследования являлось изучение особенностей причин и течения ишемического инсульта у лиц молодого возраста (до 45 лет). Исследование было проведено на базе отделения неврологии № 1 ГБУЗ НИИ ККБ № 1 имени профессора Очаповского. Применялся метода ретроспективного анализа.*

Keywords: *ischemic stroke, arterial hypertension, hypercholesterolemia, gomotsistein.*

Ключевые слова: *ишемический инсульт, артериальная гипертензия, гиперхолестеринемия, гомоцистеин.*

Introduction: the ischemic stroke of young persons is one of the most actual problems of modern neurology. It is caused by essential difference of the reasons of a stroke at young faces from those in the senior age groups, as disorders of cerebral circulation [1]. Development of an ischemic stroke is inseparably linked with existence of certain risk factors [6]. The World Health Organization marks out the following risk factors, as arterial hypertension, hypercholesterolemia, smoking [5], obesity, hypokinesia. Also the contribution to development of an acute disorder of cerebral circulation in ischemic type of a diabetes mellitus, disturbances of a cordial rhythm as fibrillation of auricles takes place [2]. The above-stated risk factors can be referred to category upgradeable that thereby confirms importance of their early diagnosis and the subsequent correction. There is a certain communication between acute disorders of cerebral circulation at persons of young and middle age and the idiopathic hypertension (IH) (according to research in the prevailing number of cases with the diagnosis an ischemic stroke was available for patients in the anamnesis of GB) [3, 4]. Gomotsistein is an independent marker of high mortality from cardiovascular diseases, comparable with a hypercholesterolemia and high arterial pressure. Gomotsistein is sulfur-containing, not proteinogenous amino acid which increase can lead to damage of an intima of arteries. Change of concentration of a gomotsistein can be determined by various factors: dot mutations in the genes controlling synthesis of enzymes, age are more senior than 50 years, a male, a menopause, a vitamin deficiency of group B, various diseases (the diseases connected with disturbance of carbohydrate metabolism; renal failure, psoriasis, malignant new growths; B-12 scarce anemias, leukoses and so forth), and also reception of certain drugs. Specification of the reason of an ischemic stroke at young faces is defining for maintaining patients, the forecast concerning life and recovery of the broken functions, secondary prevention.

Purpose: to study features of the reasons and the course of an ischemic stroke at persons of young age (till 45 flyings).

Materials and methods of research: research was conducted on the basis of department of neurology No. 1 of Scientific Research Institute No. 1 of the prof. Ochapovsky. It was applied a method of the retrospective analysis (in work were used, materials of 30 case histories with the diagnosis «an ischemic stroke» from

department of neurology No. 1 for 2013 - 2015) and also comparison method. From 79 provided patients, two groups are allocated: 1 group - patients age of 27, 5±7, 5 years and the 2nd group - patients age of 40, 5±4, 5 years. KT/MRT, the triplex scanning of brachiocephalic arteries (TSBTsA) were carried out to all the patients. Also the excess body weight [7], the assessment of the arterial pressure (AP) were determined. Laboratory diagnosis included test on homocysteine (the chemiluminescent immune analysis), the assessment of level of the general cholesterol was in addition made. Definition of pathogenetic type of a stroke, was carried out on the basis of criteria of TOAST.

In 1 group (31 patients) in 16, 13 % of cases was revealed the defeat of the left carotid pool including in the pool of the left average brain artery. In 6, 45 % of cases suffered the right carotid and basilar pool. According to KT/MPT at 96, 77 % of patients had defeat of the left hemisphere with forming of the extensive centers of ischemia in temporal, frontal, parietal, in subcortical areas, and only in 3, 23 % of cases it was observed in the left hemisphere of a cerebellum. Forming of the centers of ischemia led to development of various complications after the had stroke. In the first group the main complications were reduced to a sensorimotor, motor dysphasia, a dysarthria, the central hemiparesis. Such effects of a stroke as, touch aphasia, a dislocation syndrome took place in some isolated cases. In the second group (48 people) the main localization of defeat was noted in various sites of the left carotid pool. In the prevailing majority (93, 75 %) the center was localized in the left cerebral hemisphere, in 4, 17 % of cases the center was created in a brain trunk, and only at 2, 08% the center was formed in the right hemisphere of a cerebellum and its left leg.

According to the conducted researches of the neurologic status: in group 2 at 81, 25 % the sensorimotor dysphasia, and also a vestibular-ataxic, bulbar and pseudobulbar syndrome was revealed (on 6, 25 % in each of cases). According to TSBTsA: the stenosing atherosclerosis of brachiocephalic arteries in extracranial department - 10,13 % (8); not rectilinear course of vertebral - 7,59 % (6); a stenosis of the general carotid artery, an internal carotid artery, an outside carotid artery - 6,33 % (5); not stenosing atherosclerosis of brachiocephalic arteries in intracranial department - 3,8% (3); occlusion of an internal carotid artery, an average brain artery - 3,8 % (3); thrombosis of an average brain artery - 2,53 % (2).

Was revealed the increase of a homocysteine : 1 group - patients age of 27,5±7,5 years: 18.96 μmol/l, the 2nd group - patients age of 40,5±4,5 years: 20:18 μmol/l (at norm of 5.4-16 μmol/l).

During calculation of IMT: 20 people have a body weight index more than 40 that speaks about the III degree of obesity. At monitoring procedure of dynamics of level of arterial pressure, increase of pressure, over 130/90 mm Hg was diagnosed for 55 patients, 25 of which had AG the anamnesis. Other part of patients (24) there was a slight and short-term increase of the ABP. Dynamic supervision over a condition of patients on the basis of the neurologic status at receipt and by the time of an extract, revealed partial recovery of the lost functions at 40, 51 % of patients, only at 6, 33 % partial improvement of a state, other part of patients demanded longer supervision and rehabilitation.

Conclusions: 1. The unspecified pathogenetic option generally prevails by criteria of TOAST in 79 patients; 2. It is possible to carry to the factors promoting development of an ischemic stroke in persons of young age: an idiopathic hypertension 2 degrees (55) a hyperhomocysteinemia, obesity 2 degrees (18), 3 degrees (20) occlusion of arteries of the pools which are a part (3); 3. The ischemic stroke at young age has similar clinical manifestations with those at more mature age, but anomalies of development of vessels, inborn diseases, pathology of system of blood, atherosclerosis differ in the fact that at young age can be the reasons of development. The recovery period at people at young age occurs much quicker and has positive dynamics with the rehabilitation in a hospital, including specialists in physiotherapy exercises and massage and the subsequent treatment in the relevant neurologic sanatorium.

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