11. Solanki R, Agrawal N, Ansari M, Jain S, Jindal A. COX-2 Expression in Breast Carcinoma with Correlation to Clinicopathological Parameters. Asian Pac J Cancer Prev. 2018 Jul 27;19(7):1971-1975.

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## QUANTITATIVE AND QUALITATIVE INDICATORS OF BLOOD FLOW THROUGH THE MAIN ARTERIES OF THE HEAD IN PATIENTS WITH STROKE

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Stenosis and blockage of the arteries of the vertebrobasilar basin of the VBB, which are most often caused by atherosclerosis and atherothrombosis are manifested by a wide range of clinical conditions. The lesion of the VBB attracts the attention not only of neurologists, but also of emergency physicians, neurosurgeons, neuroradiologists and rehabilitologists, as patients with this pathology often find it difficult to establish an accurate diagnosis, assess prognosis and choose optimal treatment and rehabilitation measures. Many aspects of the diagnosis and treatment of vascular lesions of the VBB remain insufficiently studied [1-3]. Every year, more than 1.2 million people in Europe suffer from cerebral stroke (CS) and World Health Organization experts predict a further increase in the incidence. Cerebral stroke is the leading cause of disability and mortality throughout the world [5].

The aim of our study is to improve the diagnostic algorithm for ischemic stroke. To identify the pathogenetic subtype of ischemic stroke, as an addi-

tional informative method, an ultrasound examination of the main vessels involved in the blood supply to the brain was used.

This study was performed in 32 patients with ischemic stroke in VBB according to the standard Doppler protocol.

In 5 (15.6%) patients there were signs of atherosclerotic lesions of the brachiocephalic trunk and main vessels of the neck, including 3 (9.4%) with the presence of dense heterogeneous segmental and circular atherosclerotic plaques and signs of stenosis of the bifurcation of the right and left left .

Revealed in 5 (15.6%) cases S-shaped convolution of the right common and internal carotid artery, in 2 (6.2%) S-shaped convolution of the right common carotid artery and in 1 (3.1%) – S-shaped tortuosity of the right internal carotid artery. The average diameter of the right common carotid artery was – 6.21 ± 0.76 (ranging from 5.2 mm to 8.2 mm), the left common carotid artery – 6.16 ± 0.78 (from 5.1 to 8, 0 mm). The diameter of the right VA is 2.78 ± 0.78 mm (from 1.6 mm to 4.0 mm), the left VA is 3.22 ± 0.74 mm (from 1.7 mm to 4.2 mm).

In the right common carotid artery, the maximum blood flow velocity was 69.95 ± 13.75 cm / sec (from 43 cm / sec to 82 cm / sec), in the left common carotid artery – 80.20 ± 33.42 cm / sec to 202 cm / sec); in the right VA – 40.35 ± 12.10 cm / sec (22 cm / sec to 66 cm / sec), in the left VA – 38.35 ± 16.68 cm / sec (20 cm / sec to 85 cm / sec) ) – in one case due to occlusion of the left VA blood flow was absent.

The average linear velocity of blood flow in the right common carotid artery was 34.40 ± 6.61 cm / sec (from 24 to 46 cm / sec), in the left common carotid artery – 35.20 ± 9.54 cm / sec (from 14 cm / s to 51 cm / s); in the right VA – 22.00 ± 9.03 cm / s (from 12 cm / s to 44 cm / s), in the right VA – 20.80 ± 11.12 cm / s (from 8 cm / s to 53 cm / with).

Qualitative assessment of blood flow revealed that sufficient blood flow in the right common carotid artery was in 24 (75%) patients, decreased in 8 (25%) patients; on the left common carotid artery – in 26 (71.2%) and 6 (18.8%), respectively. In 4 (12.5%) there was a decrease in blood flow in both common carotid arteries. In the right VA in 10 (31.2%) cases blood flow was sufficient, in 16 (50.0%) – decreased blood flow with difficulty in perfusion, in 6 (18.8%) – increased; in the left VA – in 19 (59.4%), 11 (34.4%) and 2 (6.3%), respectively (the differences are close to significant – P = 0.057 according to the criterion $\chi 2$). Most often, the increase in blood flow in the right or left vertebral artery was compensatory against the background of a pronounced decrease in blood flow in the contralateral artery,

The peripheral resistance index (RI) and the pulsation index (PI), which characterize the state of peripheral resistance, were 0.81 ± 0.13 and 1.79 ± 0.67 in the right common carotid artery; in the left common carotid

artery – 0.78 ± 0.41 and 1.82 ± 0.74; in the right VA – 0.73 ± 0.49 and 1.75 ± 0.74, in the right VA – 0.76 ± 0.53 and 1.58 ± 0.64. That is, in general, the average values are close to normal, but in 11 (34.4%) patients there was a unilateral or bilateral increase in these indicators in the vertebral arteries, in 6 (18.8%) patients – in the common carotid arteries. This is due to age-related increase in peripheral vascular resistance or caused by hypertensive angiopathy.

In addition, in 10 (31.3%) patients there was a slowing of blood flow in the right or left jugular vein – an average of 12.2 ± 1.3 cm / cm, including 3 (9.4%) – for both jugular veins.

When evaluating functional tests with tilt and rotation of the head, it was found that in 3 (9.4%) patients it was accompanied by destabilization of blood flow in the left VA, in 2 (6.2%) – accelerated blood flow in the left VA, in 3 (9, 4%) of patients. %) – acceleration of blood flow along the right VA. The most probable cause of such changes was extravasal compression of the vertebral arteries on the background of cervical osteochondrosis at the level of segment V2.

More clearly, the pathogenetic subtype of stroke was established by ultrasonography of the main arteries of the neck. In patients with IP in VBB in most cases, clinically significant changes in blood flow were detected, and they were determined not only in the vertebral arteries, but also in the arteries of the carotid basin (CB). The most common finding was hypoplasia of the vertebral arteries, rarely atherosclerotic stenosis. Combined atherosclerosis of the CB and VBB arteries was often detected. Detection of atherosclerotic stenosis of the main arteries, especially in the presence of unstable atherosclerotic plaques, was a direct confirmation of the atherothrombotic subtype of stroke, while the decrease in blood flow due to hypoplasia or hypertensive angiopathy indicated a lacunar stroke [4].

Thus, in the most acute period of stroke, reliable topical diagnosis and determination of the pathogenetic subtype of IP in VBB is possible only with a comprehensive assessment of clinical, neurological and instrumental data.

**References:**

1. Treshchinskaya M.A., Golovchenko Y.I. Circulatory developments in the vertebro-basic system. Vascular needs of the brain. 2008. № 3. P. 13–20

2. Kaye V., Brandstater M.E. Vertebrobasilar stroke. Medicine, 2009 (http://emedicine.medscape.com/article/323409)

3. Yavorskaya V.A. Ibragimova E.L., Cooper O.B. Features of cardioembolic and atherothrombotic ischemic management in the vertebrobasilar basin. In: Proceedings of the scientific-practical conference «Modern aspects of diagnosis and treatment of cognitive disorders in aging», January 28-29, 2009. Kyiv, 2009. P. 99.

4. Feigin VL Anthology of stroke epidemiology in the 20th and 21st centuries: Assessing the past, the present, and envisioning the future. International Journal of Stroke. 2019. № 14 (3). P. 223–237.

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## VITAMIN D3 DEFICIENCY IN PATIENTS WITH PSORIATIC ARTHRITIS AND RELATIONSHIP WITH THE DISEASE MANIFESTATIONS

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In rheumatology practice it is hard to find a disease where vitamin D deficiency has not been involved in the pathogenesis and the outcome in some extend. Murdaca G. et al. analyzed over 130 studies in order to find a correlation between vitamin D levels and its effect on several autoimmune diseases. The analysis demonstrated relationship between vitamin D and the development of several autoimmune diseases such as systemic lupus erythematous, thyrotoxicosis, type 1 diabetes, multiple sclerosis, iridocyclitis, Crohn's disease, ulcerative colitis, psoriasis vulgaris, seropositive rheumatoid arthritis, and polymyalgia rheumatica [1]. Recent comprehensive literature review Mohammed Saleh Al-Dhubaibi M.S. analyzed rigorously selected 20 studies included 2046 psoriatic patients with or without arthritis and 6508 healthy controls. From these 14 studies are in favor of a positive correlation between Vitamin D deficiency and psoriasis, while remaining six studies do not depict a positive correlation. It was claimed that more studies are required that would show an accurate and effective role of vitamin D deficiency in psoriasis [2].