



**TO ASSESS THE RELATIONSHIP BETWEEN CHANGES IN HEMODYNAMIC  
PARAMETERS AND POST-STROKE RECOVERY INDICATORS IN PATIENTS  
WITH CARDIOEMBOLIC STROKE**

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**Abstract:** Cardioembolic stroke (CES) is a growing part of ischemic strokes and may have increased several-fold in recent decades. However, the study suggests several potential strategies to halt the expected increase in cardioembolic stroke. Although the causes of one-third of strokes are unknown, it is increasingly accepted that most of these cryptogenic strokes are due to embolic causes rather than cerebrovascular disease, which has recently led to the development of embolic stroke of unknown origin as a specific target.

Patients with cardioembolic stroke due to atrial fibrillation are difficult to treat in the acute phase of the disease. By identifying blood biomarkers that cause ischemic stroke, it is possible to find the etiological cause of cardioembolic stroke and thereby provide patients with correct diagnosis and treatment guidelines. Scientists have found that there is a direct correlation between changes in the amount of natriuretic peptides and heart rhythm. It has been found that the amount of LP-PLA2 in the blood indicates the risk of ischemic stroke among patients with atherosclerosis of large vessels.

Cardioembolic stroke due to atrial fibrillation shows a connection between the rhythms that cause large focal damage to brain cells. In the presence of an inflammatory process and the interaction of amino acids, the p38MAPK gene is activated and ischemic brain damage occurs. The results obtained in this research activity were found to have practical significance for the diagnosis of CES. The introduction of neuroimaging methods into clinical practice makes it possible to detect acute circulatory disorders at an early stage, to establish etiopathogenetic relationships between heart and brain pathology, and, as a result, to choose the right path for the treatment of patients. When suspected of cardiocerebral infarction, the diagnosis can be confirmed using CT, CT angiogram, CT perfusion, MRI, MRA (magnetic resonance angiography), MRS (magnetic resonance spectroscopy), and ECG methods of examination of the brain.

**Keywords:** atrial fibrillation, cardioembolic stroke, sinus rhythm

**Keywords:** component, formatting, style, styling, insert



### **Introduction (Heading 1)**

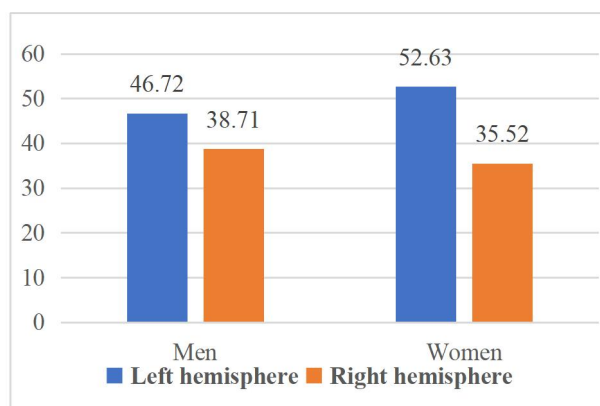
The introduction of neuroimaging methods into clinical practice makes it possible to detect acute circulatory disorders at an early stage, to establish etiopathogenetic relationships between heart and brain pathology, and, as a result, to choose the right path for the treatment of patients. When suspected of cardiocerebral infarction, the diagnosis can be confirmed using CT, CT angiogram, CT perfusion, MRI, MRA (magnetic resonance angiography), MRS (magnetic resonance spectroscopy) and ECG methods of examination of the brain.

### **Methods**

The average MG of patients was 52;67 years, in the comparison group - 54;67 years. It was found that AF developed in men at a younger MG e than in women. In the comparison group, it was observed that women were the main group younger than women with AF. A comprehensive clinical examination included neurological, laboratory, ultrasound and neuroimaging methods, as well as formatted documents that detailed complaints, anamnestic data, subjective and objective signs of the disease, and paraclinical research data. In accordance with the standard for diagnosing patients, the following methods were used to diagnose stroke and AF: Determination of blood glucose, creatinine, cholesterol and its fractions, and urea. Coagulation parameters were examined by studying clotting time, INR, PTI, and ACTH. Patients also underwent MRI or MSCT, Echocardiography and ultrasound examination of extracranial vessels using duplex scanning of the brachiocephalic arteries.

### **Results**

According to the localization of the stroke focus in the main group of patients under observation: ischemic stroke was detected in 38 patients (50%) in the left hemisphere, 30 patients (39.5%) in the right hemisphere, and 8 patients (10.5%) in the vertebrobasilar basin. According to the location of the ischemic focus, strokes in the left hemisphere prevailed (Fig. 1).

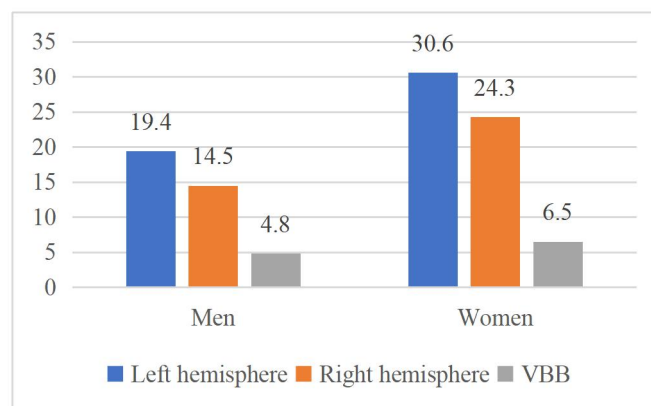


**Figure 1. Incidence rate of ischemic stroke by localization in the main group of patients**

Vertebrobasilar basin (VBB) injuries were significantly less frequent in the main group patients (6 (7.9%) and in the comparison group patients (5 (8.1%),  $r = 0.03$ )).

On the first day of the disease, 31 patients (40.8%) in the main group with persistent AF and 37 patients (48.7%) in the comparison group with CR had an ischemic focus of less than 7 cm<sup>3</sup>, 20 (26.3%) in hypertensive patients and 16 (25.8%) in HF patients had a small focus of 7-39 cm<sup>3</sup>; 9 (11.8%) of HF patients and 5 (8%) in the comparison group had a medium ischemic focus of 40-64 cm<sup>3</sup>; 6 (7.9%) in HF patients and 4 (6.4%) in HF patients. No significant differences were observed in terms of focus volume between HF and HF patients.

In the control group, according to the localization of the stroke focus, 31 patients (50%) had a stroke in the left hemisphere, 24 patients (38.7%) in the right hemisphere, and 7 patients (11.3%) in the vertebrobasilar basin. According to the location of the ischemic focus, strokes in the left hemisphere predominated (Fig. 2).



**Figure 2. Incidence of ischemic stroke by location in the comparison group of patients**

Among cardioembolic strokes, the incidence of the focus in the left middle cerebral artery basin was high in both groups.

In MG II, it was found in 48 patients (47.06%) in the left hemisphere, of which 45 patients (44.12%) were in the basin of the middle cerebral artery (MCA) and in 3 cases (2.94%) in the basin of the spinal artery (CCA), and in 45 patients (44.12%) it was found in the right hemisphere, of which 43 patients (42.16%) - CCA in the basin and in 2 patients (1.96%) - CCA was observed in the basin, in 9 patients (8.82%) a stroke occurred in the VBB of the vertebrobasilar basin. Thus, a statistically reliable superiority of CES localization in patients with MG was not determined. The lateralization of the focus was not detected in the patients of the CG. In 19 patients (47.50%) - in the left hemisphere and in 18 patients (45.00%) - in the right hemisphere, the stroke was localized in the CCA basin, in 3 patients (7.50%) there was a stroke in the VBB. Thus, similar indicators of II localization and lateralization were obtained in patients in MG and CG.



### **Discussion**

Also to cardioembolic stroke encountered main group in patients fibrinogen level noticeable to the extent high he said. Fibrinogen level increase not only blood coagulation of the system activity reflection e tiradit, but as a sign of inflammation also service does. Main in the group patients with CES observed AF for remaining indicators also to hypercoagulation more inclination showed.

Echocardiography revealed left ventricular hypertrophy (myocardial mass index 125 g/m<sup>2</sup> or more in men and 110 g/m<sup>2</sup> or more in women) in 67 patients (88.2%) with AF and 55 (88.7%) in the control group ( $p > 0.05$ ). The mean values of the left ventricular myocardial mass index in the main and control groups did not differ significantly. In patients with persistent AF, statistically significantly greater left ventricular cavity size and lower values of pulmonary artery pressure and left ventricular stroke volume were observed.

### **Conclusion**

It turned out that in the acute period of cardioembolic stroke, a decrease in the number of disability and death due to the disease was achieved among the patients we examined. The result of our research, based on a stratified and systematic approach, was the development of a step-by-step algorithm for the management, diagnosis and treatment of patients in the acute period of cardioembolic stroke caused by atrial fibrillation as a full-fledged system aimed at complex treatment. Based on this, we get the opportunity to predict the course of the disease, complications and results of treatment, including in the context of optimizing nootropic and anticoagulant therapy. The scientific result of our research showed that early detection of the disease, early diagnosis of atrial fibrillation and rapid initiation of treatment can improve the outcome of the disease in patients with cardioembolic stroke and improve the quality of life.

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### **REFERENCES**

Khadzhieva DT, Nurova ZH. Optimization of treatment of early neurological complications in cardioembolic stroke // Salon bio and construction. Strasbourg, 2021, – P. 38-39.

Mukhamadieva N. B. Tuksanova Z. I. Influence of the course of myocardial infarction on the development of depressive disorders. "Young Scientist" scientific journal. №1 1(91).June 2018, 681-682 p.

Diagnosis and treatment of atrial fibrillation. Recommendations of the RKO, VNOA and ASSH. Moscow 2012.

Garcia D, Libby E, Crowther MA. The new oral anticoagulants. Blood, 2020, 115: 15-20.

Nurova Z. H., Z. I. Tuksanova. Optimization of treatment of early neurological complications in cardioembolic stroke. A new day in medicine. -. 2020. - No. 4. - pp. 615-616.



Khodzhiyeva D. T., Tukhtaev I. T. Evaluation of the effectiveness of acupuncture in the complex treatment of neurological disorders in ischemic stroke// Certificate of official registration of the program for electronic computers. MAgency for Intellectual Property of the Republic of Uzbekistan. - 2020. - No. DGU 09652.

Khodzhiyeva D. T., Dzhunaidova A. H. Rehabilitation of patients with acute disorders of cerebral circulation and improvement//Journal of Clinical Psychology and Psychiatry. - 2020. - No. 1. - pp. 13-19.

Hodjyeva D. T., Khaydarov D. K. Violation of cerebral circulation in occlusii lesions of the carotid arteries// A new day in medicine - 2019. - P. 33 -37.

Hodjyeva D.T., Khaydarov D. K., Axrorova B. S., Rakhmatov, D. I., Akhmatova N. R. research of neurological patients/Publisher the Durdona. Bukhara - 2019.

Khodzhiyeva D.T., Nurova Z.H., Khaydarov N.K., Khaydarova D.K. Optimization of the diagnosis and treatment of early neurological complications in cardio embolicstroke// European Journal of Molecular & Clinical Medicine. 2021,- P.5788-5792.