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## **THE INFLUENCE OF CORONAVIRUS INFECTION ON THE RISK OF STROKE**

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**Relevance.** A stroke is a clinical syndrome of acute localized neurological damage caused by a vascular injury, such as a hemorrhage, or a blockage leading to an infarction of the central nervous system, specifically the brain. 85% strokes are ischemic, caused by vessel arteriolosclerosis, thromboembolism, cardio-embolism and large artery atherosclerotic based thromboembolisms.

COVID-19, also known as Coronavirus, or SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) is severe respiratory viral infection. Although COVID-19 is predominantly a respiratory illness, it can cause systemic and neurological symptoms such as brain hemorrhage and stroke.

The etiology suspected behind COVID-19-induced strokes are comprised of direct virus damage to endothelium of vessels, immune-mediated or inflammatory damage, and thrombophilia leading to diffuse hypercoagulability.

**Aim:** to establish correlation between positive COVID-19 and stroke diagnoses

**Materials and methods.** Outpatient records of 66 patients who were diagnosed with COVID-19 in 2020-2021 and stroke from 2020 to 2022 obtained from the 34th Minsk city polyclinic.

**Results and their discussion.** Across 2020 to 2022, we have found that patients who were positive for stroke after COVID-19 were 66 patients: 16 of them in 2020, 39 persons in 2021.

Most of them were women 34 patients or 52% and 32 patients or 48% of patients were men. Then, we have divided patients into 3 age groups and found out that there were 2 patients who were 40-59 years old (3% of patients), 22 patients who were 60-74 years old (33%), and 42 patients who were older than 75 years old (64%).

When comparing the number of men and women by different ages, we obtained the following data: for the age group 40-59, only men 2 patients were affected with stroke after suffering from COVID-19 and no women; in the age group 60-75, mainly men 16 patients were affected compared to 6 patients women. In the age group 75 and over however, mainly women were affected, 28 patients of 42 (67%), compared to 14 patients of 42 (34%) of men.

When analyzing the time of stroke development and the day of receiving a positive COVID-19 test, we received the following data: 18 patients (27%) received a same-day diagnosis, 21 patients (32%) were diagnosed within 0-3 months, 3 patients (4%) were diagnosed within 4-7 months, 7 patients (10%) were diagnosed within 7-10 months, 3 patients (4%) were diagnosed within 14-16 months, and 9 patients (13%) were diagnosed after 16 months.

**Conclusion.** The following conclusions can be drawn from the results of our research: older patients, particularly those aged 60-74 and older than 75 with positive COVID-19 are more at risk for developing stroke. Women are more at risk of stroke after coronavirus compared to men, particularly in ages 75 and above. However, ages 40-59, and 60-75, mainly men were affected.

Analyzing the time of stroke occurrence against the background of confirmed coronavirus infection, it can be concluded that patients with coronavirus infection have a very high risk of stroke in the first three months. The risk also remains high in the post-COVID period.

After all, from our study, we can conclude that patients in the first three months after confirmation of coronavirus infection, as well as men aged 60-75 years and women over 75 years need careful monitoring by medical professionals - examination by a doctor, monitoring of laboratory parameters to prevent the occurrence and early diagnosis of stroke.