AP09562567 " Assessment of the consequences of SARS-CoV-2 infection in the structure of neurological diseases "

Relevance

To date, the coronavirus pandemic is the most pressing problem. According to the literature, more and more emphasis in the study is made on the debut, the course of the disease, while the issues of consequences remain unexplored, especially in the context of neurological diseases.

The prevalence of neurological symptoms in COVID-19 patients has become more apparent, although preexisting neurological conditions have been associated with more severe COVID-19 infections. In a recent review of patients diagnosed and hospitalized with COVID-19, 8% of 4,014 patients had preexisting neurological conditions, although this analysis mainly focuses on patients with prior stroke. Interestingly, patients with prior neurological conditions have less improvement in respiratory symptoms during the first 10 days of hospitalization and have a significantly increased risk of developing acute respiratory distress syndrome compared to controls without neurological disease. Although preexisting neurological conditions bode well for worse outcomes, the incidence of neurological complications secondary to SARS-CoV-2 infection is also high. Among hospitalized patients with COVID-19, neurological complications range from 6% to 36%. In addition, hypoxic ischemic encephalopathy was observed in 20% of patients in one series.

The biological properties of the central nervous system contribute to the exacerbation of neurological damage caused by coronavirus infections. The central nervous system has a dense parenchymal structure, and the usual lack of permeability of its blood vessels is a barrier to viral invasion. If SARS-CoV-2 is latent in the central nervous system for a long time, recovered patients may reappear with neurological diseases due to latent SARS-CoV-2 infection, since late neurological complications are not yet known.

Project goal: to determine the neurological consequences of coronavirus infection , changes in biochemical parameters and the relationship between them

Expected results

The study will assess the impact of COVID-19 on the neurological picture. The dependence of the concentration of alarmines , markers of oxidative metabolism in persons with neurological disorders who have undergone COVID-19, will be determined .

Research group

D. Klyuyev - Candidate of Medical Sciences, Associate Professor, Head. Department of Biomedicine, NJSC "KMU", project manager. Author ID in Scopus 56611901600 ; Researcher ID Web of Science AAR-8125-2021 ; ORCID ID 0000-0003-2012-2227 ; Researcher ID in Publons AAR-8125-2021

Sh. Kalieyva - Candidate of Medical Sciences, Associate Professor, Head. to the aphedra of clinical pharmacology and evidence-based medicine of NJSC "MUK". Author ID in Scopus 56650923400; Researcher ID Web of Science A-9107-2019 ; ORCID ID 0000-0003-1252-8657 ; Researcher ID in Publons A-9107-2019

Z. Kulbaeva - a neurologist, PhD student at the NJSC "KMU".

Achieved results

Neurological examination of persons over 18 years of age was carried out in the neurological office of Polyclinic No. 8. The respondents were identified with signs of neurological deficit after suffering a coronavirus infection .

Information for potential users

The results obtained will make it possible to improve the methods of diagnosis and treatment of the consequences of cornavirus infection in the system of neurological diseases . Fields of application - n eurology, clinical biochemistry.