

THE EFFECT OF A NEW CORONAVIRUS INFECTION ON THE CENTRAL NERVOUS SYSTEM. POSTCOVID SYNDROME

Qodirov J.Sh

Department of Neurology ,Andijan State Medical Institute

Annotation:The most common manifestations of postcovid syndrome from the central nervous system are: headaches, memory and concentration impairment, sleep disorders, fatigue, depression and anxiety. These symptoms can persist from several weeks to several months after the infection and reduce the quality of life of patients. The causes of the development of postcovid syndrome on the part of the central nervous system are not fully understood, but it is assumed that they are associated with inflammatory processes in the brain, circulatory disorders and hypoxia, as well as psychological stress caused by the disease. For the treatment and prevention of postcovid syndrome from the central nervous system, it is recommended to consult a neurologist who can prescribe appropriate therapy depending on the severity and nature of the symptoms. In addition, it is important to observe the daily routine, avoid overwork and stress, engage in physical activity and eat right. At the same time, neurological symptoms are more pronounced 3 months after the disease, while neuropsychiatric symptoms are more pronounced after 6 months or mor

Keywords: postcovid syndrome, coronavirus infection, central nervous system, virus.

Introduction:From the very beginning of the COVID-19 pandemic, reports began to appear about the frequent association of a new coronavirus infection with neurological disorders. Chinese doctors were the first to show a significant prevalence of severe and persistent headache that does not correspond to the severity of general intoxication, frequent episodes of delirious confusion, also not corresponding to the severity of general intoxication, decreased sense of smell and taste [1].

Further observations confirmed the neurotropism of the new disease. Currently, no one has serious doubts that COVID-19 is very often accompanied by neurological complications, both in the acute period and weeks and months after infection. According to some data, the frequency of interest of the nervous system can reach half or even two-thirds of all cases of infection with SARS-CoV-2 [2, 3]. The most commonly described disorders of smell and taste (35.6%), myalgia (18.5%), headache (10.7%), strokes (8.1%), dizziness (7.9%), impaired consciousness (7.8%), epileptic seizures (1.5%), encephalitis, neuralgia, ataxia, Guillain syndrome–Barre, Miller–Fisher syndrome, intracerebral hemorrhages, cranial neuropathies and muscular dystonia [4].

The question of the reversibility or duration of neurological complications remains open and requires further study. It is important for the clinician to have an idea of the most common neurological disorders associated with the SARS-CoV-2 virus and the mechanisms of their development. This is important for optimizing the early diagnosis of neurological complications and developing pathogenetically sound approaches to therapy.

The purpose of the study. To study the frequency and severity of symptoms of the bridge syndrome from the central nervous system.

Materials and methods. An anonymous online questionnaire was conducted with an assessment of the severity of fatigue on the Fatigue Severity Scale (FS), as well as an assessment of the level of anxiety and depression on the Hospital Anxiety and Depression Scale (HADS).

Results and discussion. 70 people aged 20 to 50 years took part in the survey. Of these, 50% suffered a coronavirus infection with confirmation by PCR test and ELISA, and the remaining 50% were ill without a positive PCR test, but with subsequent detection of IgG by ELISA. According to the survey, 64.5% of respondents suffered from the disease in mild form, 32.3% – in moderate, 3.2% – in severe form. Of these, 85.5% received outpatient treatment, 14.5% received inpatient treatment. During the survey, it turned out that 53.2% of patients had been ill more than a year ago, 25.8% – six months ago and 21% – less than six months. It is important to note that 91.1% of the respondents did not undergo rehabilitation after the disease, in addition, most of them did not have a history of chronic diseases from the central nervous system (82.3%) before contracting coronavirus infection.

The most frequent complaints from the nervous system are: increased fatigue, irritability, decreased concentration, decreased memory (67%), slightly less headaches (25%), and 7% have dysgeusia (distortion of taste sensations) and parosmia (distortion of the sense of smell). At 82.3% of complaints are of a non-permanent nature, and therefore 75.1% did not go to the doctor with these symptoms, unlike the remaining 17%, whose complaints are persistent and reduce the quality of life. Using Fatigue Severity assessment scales The Hospital Anxiety and Depression Scale (HADS) found out that 55% of respondents scored more than 36 points on the FSS scale, and on the HADS scale, 70% of respondents showed signs of increased anxiety and there are signs of subdepression, which indicates a great influence of post-ovoid syndrome on nervous system and neuropsychic functions. For a more accurate assessment of the data obtained, the results of the meta-analysis "Mid and long-term neurological and neuropsychiatric manifestations of post-COVID-19 syndrome: A meta-analysis" were used. According to the latest data, the analysis involved 11,324 patients, 57% of them were women, and the average age of patients was 55 years [2].

In the course of the study, it was found that increased fatigue is the most common symptom of neurological postcovid syndrome (observed in 7173 patients). Cognitive impairment (4329), sleep disorders (8455) and memory problems (5268) are also quite common.

As for neuropsychiatric symptoms, increased anxiety (3104) and depression (3104) were more often reported in patients who were on outpatient treatment than in those hospitalized in the acute phase of the disease. Also in this study it was found, that the prevalence of neurological and neuropsychiatric symptoms of bridge syndrome was higher when assessed 6 months or more after the end of the acute period of the disease (long-term) than after 3-6 months (medium-term). At the same time, symptoms such as dysgeusia, parosmia, myalgia and cognitive disorders occur with the same frequency, both 3 months after the acute period and six months later, while neuropsychiatric disorders are more often detected in

the long term [2].

Conclusions: After analyzing the survey data and comparing them with according to the meta-analysis, it can be concluded that the manifestations of postcovid syndrome from the central nervous system are widespread regardless of the severity of acute coronavirus infection.

There was a greater prevalence of symptoms 6 months or more after the acute period, especially increased anxiety and depression, while cognitive impairment, sleep and memory disorders, dysgeusia and parosmia are equally common in the long-term period and after 3 months. It was also revealed that more than 90% of respondents did not pass rehabilitation at the end of the acute period, which could contribute to the development of post-ovoid manifestations. Therefore, attention should be paid to the rehabilitation of patients, since post-ovoid disorders reduce

the quality of life in the long term.

Literature:

1. del Rio C, Collins LF, Malani P. Long-term Health Consequences of COVID19. JAMA. 2020;324(17):1723-1724. doi:10.1001/jama.2020.19719.
 2. Premraj L, Kannapadi NV, Briggs J, Seal SM, Battaglini D, Fanning J, Sun J, Robert, Frazer J, Chasm. Mid and long-term neurological and neuropsychiatric manifestations of post-COVID-19 syndrome: A meta-analysis. J Neurol Sci. 2022 Jan 29;434:120162. doi: 10.1016/j.jns.2022.120162. Epub ahead of print. PMID:35121209; PMCID: PMC8798975.
 3. Recommendations for the management of patients with COVID19 coronavirus infection in the acute phase and with postcovid syndrome in outpatient settings.
- Edited by Prof. Vorobyeva P.A. Problems of standardization in healthcare. 2021; 7-8: 3-96. <https://doi.org/10.26347/1607-2502202107-08003-096>.
4. Mao L., Jin H., Wang M. et al. Neurologic manifestations of hospitalized patients with coronavirus disease 2019 in Wuhan, China // JAMA Neurol. 2020. Vol. 77. № 6.P. 683–690.
 5. Lu Y., Li X., Geng D. et al. Cerebral micro-structural changes in COVID-19 patients – an MRI-based 3-month follow-up study // EClinicalMedicine. 2020. Vol. 25. P. 100484.
 6. Miners S., Kehoe P.G., Love S. Cognitive impact of COVID-19: looking beyond the short term // Alzheimers Res. Ther. 2020. Vol. 12. № 1. P. 170.
 7. Tsai S.T., Lu M.K., San S. et al. The neurologic manifestations of coronavirus disease 2019 pandemic: a systemic review // Front. Neurol. 2020. Vol. 11. P. 498.
 8. Zubair A.S., McAlpine L.S., Gardin T. et al. Neuropathogenesis and neurologic manifestations of the coronaviruses in the age of coronavirus disease 2019: a review // JAMA Neurol. 2020. Vol. 77. № 8. P. 1018–1027.
 9. Ellul M.A., Benjamin L., Singh B. et al. Neurological associations of COVID-19 // Lancet Neurol. 2020. Vol. 19. № 9. P. 767–783.