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THE EFFECT OF POSTCOVID SYNDROME ON ASTHENIC DISORDERS IN ADOLESCENTS

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Abstract
This literature review presents the mechanism of direct neurotropic and neurotoxic effects of the SARS - CoV - 2 virus on the central nervous system of adolescents. The issues of the stressful impact of the pandemic are also considered. The identified disorders contribute to the development of post-covid syndrome, which is characterized by such clinical manifestations as asthenic, anxiety-asthenic and depressive.

Key words: pandemic, COVID -19, asthenic disorders.

Introduction

As information accumulates on the impact of the COVID-19 pandemic and viral infection on somatic and mental health in the air, data are not about the direct harmful effects of SARS-CoV-2 on the nervous system, but also about infection in those who have had a new viral infection, both acute and and long-term persistent neurological and hereditary diseases.

The direct negative impact of COVID-19 is realized by increased neurotropism (penetration into neurons and glial cells) and neurotoxicity of the virus, its ability to cause a cascade of reactive inflammatory processes in the central nervous system, provoke the development of vascular thrombosis and thromboembolism, as well as acute respiratory distress syndrome and respiratory failure and as a consequence, hypoxia [7, 8, 9, 21]. In some patients who have undergone COVID-19, encephalopathy, necrotizing hemorrhagic encephalitis, viral meningitis, manifestation of Guillain-Barré syndrome and Parkinson's disease are diagnosed for the first time [11, 18].

The indirect subjectively significant stressful impact of the pandemic, leading to the development of heterogeneous mental disorders [14, 16, 24], is due to the presence of a long-term potential threat to life, the predominance of nonspecific symptoms of

infection in the clinical picture with fears of its asymptomatic transmission and carriage, the absence of a long-term stable immune response, proven effective pathogenetic treatment and prevention measures, limited access to medical services for other somatic or mental diseases, as well as deterioration in material well-being [3, 10, 20].

Mental disorders, in turn, can be predictors of a decrease in immunity and an increase in the likelihood of an unfavorable course of a viral infection [16, 17]. Among the possible reasons for such a frequent comorbidity are specific cognitive impairments, stigmatization, a decrease in the instinct of self-preservation, insufficient criticality, poor compliance, accompanied by violations of the self-isolation regime and non-compliance with sanitary rules [24]. As a result, such patients are more likely to develop complications, have a worse prognosis for any somatic, including viral, disease, and an increased likelihood of hospitalization.

Most often, according to the literature, after suffering from COVID -19 in adolescents, disorders of the asthenic (23-48%) and anxiety-depressive (12-26%) spectrum are detected [6, 12, 13]. At the same time, despite convalescence after COVID -19, the incidence of depressive and anxiety disorders in patients decreases slightly and amounts to 14.9-30.4% immediately after discharge [21 , 22, 19], and after 6 months - 17-23% [11, 18]. At the same time, many patients experience increased symptoms of asthenia (neurasthenia, up to 63%), insomnia (26%), PTSD (30%, including those with abortive delusions), which together represent the clinical picture of the so-called post-coronavirus syndrome [1, 4, 5, 23].

In the ICD-10, the conditions, the main manifestation of which is asthenia, are considered under the headings "Neurasthenia (F 48.0)", "Psychasthenia (F 48.8)", "Organic emotionally labile (asthenic) disorder (F 06.6)", "Fatigue syndrome after viral infection (G 93.3)", "Nonspecific asthenia (R 53)" and "Overfatigue (Z 73.0)". Asthenic disorders due to COVID -19 can also be classified under a group of recently introduced rubrics: "Personal history of COVID -19 , unspecified (U 08.9)" - used to record an earlier episode of COVID -19, confirmed or probable, that affects the state of health adolescents, but at the same time, the adolescent is no longer sick with COVID -19, as well as “Status after COVID -19 , unspecified (U 09.9)” - allows you to establish a link between the current state and the past COVID -19 (the code cannot be used in cases where COVID -19 is all still present).

Asthenia (neurasthenia) is manifested by increased fatigue, as well as irritable weakness (increased excitability can be replaced by tearfulness), unstable mood, hyperesthesia (intolerance to bright light, loud sounds, pungent odors). Often there are headaches, sleep disorders in the form of constant drowsiness or persistent

insomnia, autonomic disorders. Patients have a change in mental state depending on atmospheric pressure. Determining for asthenia are constant complaints of exhaustion after minimal effort, combined with at least two of the following complaints: muscle pain, dizziness, tension headache, sleep disturbances, inability to relax, irritability, dyspepsia [6, 8, 12, 15].

Asthenic disorders can significantly reduce the working capacity of patients, disrupt their usual life activities, and sometimes act as a background against which other, more severe, mental or somatic disorders are formed. Clinically, asthenic symptoms, being the least specific of all mental disorders, are considered by some authors as "basic" in other disorders, sometimes preceding or determining and almost always completing the course of any somatic and neurological disease [2].

The initial manifestations of anxiety spectrum disorders developing against the background of asthenia in those who have undergone COVID -19 include increased excitability or nervousness with a premonition of impending danger, irritability and anger, insomnia and nightmares, overeating, heterothematic fears (getting sick and dying, lack of communication with subjectively significant contact persons). loss of loved ones and the inability to protect them, use medical services because of the possibility of infection, loss of livelihood, etc.) [15].

When depressive disorders develop, patients report decreased mood, increased tearfulness, feelings of helplessness, boredom, loneliness and depression due to isolation, changes in their habits and lifestyle, as well as feelings of guilt and shame due to having "survived", "infected others" or "failed to help", confusion, social or communicative isolation, "emotional numbness" or demoralization due to the loss of favorite activities [3].

Thus, asthenic syndrome in children remains relevant. problem in pediatrics. Its development can be the most diverse diseases in terms of etiology. task doctors of various specialties is the development optimal anti-asthenic therapeutic programs using rational drug therapy, avoiding polypharmacy whenever possible.

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