

Affectation of the Nervous System by Sars-Cov2 as a Health Problem

Juan Enrique Bender del Busto*

Philosopher Doctor, 2nd Degree Specialist in Neurology, Full Professor and Researcher, Consultant Professor, International Center of Neurological Restoration, Havana, Cuba

***Corresponding Author:** Juan Enrique Bender del Busto, Philosopher Doctor, 2nd Degree Specialist in Neurology, Full Professor and Researcher, Consultant Professor, International Center of Neurological Restoration, Havana, Cuba.

Received: May 31, 2021; **Published:** June 30, 2021

Humanity faces a very difficult situation, since in December 2019 several patients with respiratory symptoms and pneumonia were notified in Wuhan (Hubei province, China) [1,2] but in which, in turn, other patients were implicated. organs and systems and among them, the nervous system and whose causative agent was a new coronavirus (2019-nCoV).

On February 11, 2020, it was named acute respiratory syndrome coronavirus 2 (SARS-CoV-2), being the seventh known coronavirus to infect humans [3,4].

The World Health Organization (WHO) subsequently named the disease: coronavirus disease 2019 (COVID-19) [5-7] and declared it a pandemic on March 11, 2020 [8,9].

Coronaviruses that affect human beings are called Coronaviruses β and have become a real public health problem due to their high pathogenicity and infectivity [10] which has led to high mortality and implies a worrying issue, which it is necessary to attend.

What is significant is that patients infected with the SARS-CoV-2 virus can present with various clinical manifestations, including extra-pulmonary ones, which could precede respiratory symptoms and fever or present later [11] as it is known that respiratory viruses Also, they can penetrate the central nervous system (CNS) (neuroinvasion), affect both neurons and the glia (property known as neurotropism) and induce various neurological pathologies (neurovirulence) [12].

This issue induces the need to call on the scientific community and practical doctors to be attentive to any neuropsychiatric manifestation related to SARS-CoV-2 infection [13].

From the first studies carried out, according to these neurotropic properties, patients with nervous system involvement have been reported, which are more frequent in cases of severe infection, worsening the prognosis of patients [5,9,14,15].

In the first cases evaluated retrospectively by Mao in Wuhan, China, 214 patients with SARS-CoV-2 were retrospectively evaluated, implying that 36.4% of the patients presented neurological manifestations, predominantly central nervous system involvement. in 24.8%, followed by damage to skeletal muscle in 10.7% and to the peripheral nervous system in 8.9% [5,16,17].

Dizziness, headache, impaired consciousness, acute cerebrovascular disease, ataxia and epilepsy were the most significant manifestations of the Central Nervous System (CNS) [5].

Neurological symptoms and signs were also described in another series, in 84%, including confusion, agitation, signs of the corticospinal tract and dysexecutive syndrome [18].

Acute necrotizing hemorrhagic encephalopathy [17], encephalitis [19] and meningoencephalitis, have been described, the latter associated with epileptic seizures and decreased level of consciousness [20].

In an Iranian study, epileptic seizures were reported for the first time, in the course of infection by coronavirus (COVID-19) [21,22].

Ataxia was reported in the Wuhan study [5] and more recently as acute cerebellar ataxia followed by encephalopathy, in a patient, who also had SARS-CoV-2-related pneumonia [4].

The cerebrovascular disease initially described in the retrospective study from Wuhan [23] was evidenced in other subsequent studies [16,23-26].

Post-infectious myelitis was described in a patient with a diagnosis of COVID-19 [14,17].

In addition, considering the potential for neuromuscular involvement, SARS-CoV-2 infection could cause Guillain-Barré Syndrome, myositis, or critical patient polyneuropathy/myopathy [25].

However, the infection could also exacerbate a known neuromuscular disease or bring out the diagnosis of another, whose symptoms and signs are masked [27,28].

Taste and smell disorders are considered by some authors as early markers of SARS-CoV-2 infection, which are commonly reported by patients with COVID-19 [29-31] even being the first manifestation of the illness [30,32].

It should be noted that the delayed or chronic effects of this pandemic, particularly on mental health, will not be fully appreciated immediately, but must be taken into consideration. Therefore, longitudinal investigations of the possible psychiatric disorders associated with COVID-19 are essential in the surveillance of patients affected by the disease [33] as these are currently unknown [34-36].

Some authors consider that the main psychiatric manifestations in patients infected by SARS-Cov-2 are anxiety, depression and stress [37] which may be closely related to confinement measures, which have generated severe damage to collective mental health. The great psychological challenge that the current health crisis implies, which includes health professionals and obviously, the population in general, should be pointed out, since the COVID-19 infection has compromised social and work life [38].

Some authors consider that health personnel who directly care for patients with COVID-19 may suffer from Burnout Syndrome (BOS) or posttraumatic stress disorder (PTSD), which has been described more frequently in the nursing staff [39,40].

Patients with previous mental entities or those who have suffered special situations capable of developing psychological disorders such as post-traumatic stress disorder, acute stress disorder, major depressive disorder, adjustment disorders or other anxiety disorders, as well as the development of somatic symptoms, they are a vulnerable group to consider [41-45].

Certain special groups such as patients with the Autistic spectrum, patients with intellectual deficits and Alzheimer's disease, who have difficulty adopting the measures of confinement, as well as of hygiene and personal protection suggested, should be taken into account by the specialists. Schizophrenia patients can exacerbate their symptoms and addiction patients can increase drug use [46,47].

Psychosis can also occur in patients infected with SARS-CoV-2 [48] and the episodes can be triggered by the stress derived from the pandemic, reporting in turn, a high risk of suicidal behavior, for which there should be close supervision both in the acute phase and in long-term follow-up term of these patients [49].

It should also be taken into consideration, patients suffering from neurological diseases such as multiple sclerosis and other diseases of chronic evolution of the central nervous system, who are prone to depression and decreased neurological functions due to new brain damage [49-51].

For all of the above, we must bear in mind that SARS-CoV-2 infection can involve nervous system involvement and therefore present neuropsychiatric manifestations, with significant sequelae, which can even lead to suicide. We feel responsible for alerting the scientific community about the consequences of this condition and therefore the need for comprehensive management of an issue that constitutes a global health problem.

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Volume 13 Issue 7 July 2021

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