

A Covid-19 Infection-Related Sydenham Chorea Attack

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Abstract

In December 2019, the SARS-CoV-2-related Coronavirus illness 2019 (COVID-19), which is now regarded as a global pandemic, first occurred in Wuhan, China. This illness, which already exhibits signs in the circulatory and respiratory systems, can affect a variety of organ systems. Since the pandemic's start, reports of cases involving neurological involvement have been published in the literature, and investigations compel neurological abnormalities and sequelae. From severe to mild, COVID-19 can induce a wide range of neurological manifestations. To the best of our knowledge, our case is the first instance in which a patient's chorea has been linked to COVID-19.

Keywords: COVID-19 • Chorea • Neurological manifestation in COVID-19

Introduction

Since its emergence in December 2019, COVID-19, caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), has spread globally, becoming a pandemic as declared by the World Health Organization in March 2020. By November 9, 2020, there were 50,266,033 confirmed cases and 1,254,567 fatalities. While COVID-19 primarily affects the respiratory and cardiovascular systems, evidence has increasingly shown its involvement in the brain and nervous system. Neurological symptoms have been observed in many COVID-19 patients, with adults being more susceptible, though rare cases of neurological involvement in children have also been noted.

The neurological manifestations of COVID-19 vary, ranging from mild symptoms like headache, dizziness, and loss of smell and taste to more severe complications such as encephalopathy (brain dysfunction), acute cerebrovascular events (like stroke), blurred consciousness, and skeletal muscle damage. These symptoms suggest that COVID-19 can affect the central nervous system (CNS) as well as the peripheral nervous system. The extent of neurological involvement depends on various factors, including the severity of the infection and pre-existing health conditions.

There are two primary hypotheses regarding the mechanisms by which COVID-19 may cause neurological complications. One possibility is immune-mediated damage, where the body's immune response to the virus inadvertently harms neural tissues. Another theory suggests that direct viral invasion may occur, with SARS-CoV-2 entering the brain through the olfactory nerve or via the bloodstream. Though research continues to explore these pathways, the neurological impact of COVID-19 highlights the virus's complex and multifaceted effects beyond the lungs and heart, emphasizing the need for multidisciplinary care in treating COVID-19 patients.

Conclusion

SARS-CoV-2, the virus behind the COVID-19 pandemic, has caused significant morbidity and mortality worldwide since it first emerged in December 2019. While primarily known for affecting the respiratory and cardiovascular systems, the virus's impact on the nervous system is becoming increasingly apparent. Neurological symptoms—such as headaches, confusion, dizziness, and even stroke—are now recognized as part of the clinical spectrum of COVID-19, expanding the understanding of how the virus affects the body. This awareness underscores that the virus's manifestations are not confined to classic respiratory symptoms like fever, cough, and shortness of breath.

The ongoing pandemic necessitates vigilance in recognizing unusual symptoms, such as those affecting the nervous or gastrointestinal systems, which could be linked to COVID-19, even in the absence of typical respiratory signs. This is crucial for early detection and intervention in atypical cases, where neurological issues could precede or occur without respiratory symptoms.

Interestingly, some patients with neurological symptoms do not exhibit the intense immune response known as a cytokine storm, which is characterized by a surge of inflammatory molecules causing severe tissue damage, including in the nervous system. The absence of such immune hyperactivity in certain neurological cases suggests that the virus may affect the nervous system through distinct mechanisms, independent of widespread inflammation. This points to the complex and multifaceted nature of SARS-CoV-2 and its ability to affect various organ systems in different ways, reinforcing the need for a broad approach to diagnosis and management. Being alert to non-respiratory symptoms in COVID-19 cases is essential for addressing the full scope of the disease's impact.