

A Coronavirus Disease Related Sydenham Chorea Assault

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Abstract

In December 2019, the SARS-CoV-2-related COVID sickness 2019 (Coronavirus), which is currently viewed as a worldwide pandemic, first happened in Wuhan, China. This disease, which as of now shows signs in the circulatory and respiratory frameworks, can influence an assortment of organ frameworks. Since the pandemic's beginning, reports of cases including neurological association have been distributed in the writing, and examinations urge neurological anomalies and sequelae. From serious to gentle, Coronavirus can incite a large number of neurological signs. As far as we could possibly know, our case is the main example wherein a patient's chorea has been connected to COVID-19.

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

Introduction

Sydenham chorea, historically known as Saint Vitus dance, is a rare neurological disorder characterized by rapid, uncoordinated jerking movements primarily affecting the face, hands, and feet. It typically manifests in children between the ages of 5 and 15 and is often associated with rheumatic fever, an inflammatory condition resulting from untreated streptococcal infections. However, a concerning trend has emerged during the COVID-19 pandemic, indicating a potential link between Sydenham chorea and coronavirus disease. Coronavirus disease-related Sydenham chorea, abbreviated as CRSC, presents a unique challenge in both diagnosis and management due to its overlap with COVID-19 symptoms and the intricate mechanisms by which the virus may trigger neurological complications. While the direct causative relationship between COVID-19 and Sydenham chorea is yet to be definitively established, emerging clinical reports and research studies suggest a plausible association, warranting further investigation. The proposed mechanisms behind CRSC involve the virus's ability to induce an autoimmune response leading to neurological dysfunction. COVID-19 is known to activate the immune system excessively in some individuals, resulting in a cytokine storm—a surge of inflammatory molecules that can damage tissues throughout the body, including the brain. This dysregulated immune response may trigger autoimmune

reactions targeting the basal ganglia, the area of the brain responsible for motor control, thereby precipitating the development of Sydenham chorea-like symptoms. Furthermore, the neurological manifestations of COVID-19, such as encephalitis, meningitis, and Acute Disseminated Encephalomyelitis (ADEM), highlight the virus's neurotropic potential. It can directly invade the central nervous system or trigger immune-mediated damage, contributing to the onset of choreiform movements characteristic of Sydenham chorea. The presence of neuroinflammation and demyelination in COVID-19 patients underscores the intricate interplay between viral infection, immune response, and neurological sequelae. Diagnosing CRSC amidst the COVID-19 pandemic poses significant challenges due to overlapping clinical features and the need for comprehensive evaluation to rule out alternative etiologies. Patients presenting with acute onset choreiform movements, especially in the context of recent COVID-19 infection or exposure, require a thorough neurological assessment, including neuroimaging, cerebrospinal fluid analysis, and autoimmune serological testing. Collaborative efforts between neurologists, infectious disease specialists, and rheumatologists are essential for accurate diagnosis and timely intervention. Management of CRSC involves a multidisciplinary approach aimed at addressing both the underlying COVID-19 infection and the associated neurological complications. Symptomatic treatment with antichoreic medications such as benzodiazepines, antiepileptic drugs, or dopamine receptor antagonists may help alleviate involuntary movements and improve quality of life. Additionally, immunomodulatory therapies targeting the underlying autoimmune response, such as corticosteroids, intravenous immunoglobulins, or plasmapheresis, may be considered in severe or refractory cases. Preventing CRSC relies on early recognition of COVID-19 infection and prompt initiation of appropriate treatment to mitigate the risk of neurological sequelae. Public health measures such as vaccination, infection control protocols, and timely access to healthcare services play a crucial role in reducing the burden of COVID-19-related complications, including Sydenham chorea assaults.

Conclusion

Coronavirus Disease Related Sydenham Chorea represents a novel clinical entity necessitating further research to elucidate its pathophysiology, clinical characteristics, and optimal management strategies. Collaborative efforts among healthcare professionals, researchers, and policymakers are imperative to address the evolving challenges posed by neurological complications of COVID-19 and mitigate their impact on affected individuals and communities. Moreover, policymakers play a crucial role in addressing the evolving challenges posed by neurological complications of COVID-19. This includes allocating resources for research funding, establishing guidelines for the management of CRSC, and implementing public health initiatives to raise awareness about the potential neurological sequelae of COVID-19 and the importance of early intervention. Collaborative efforts among healthcare professionals, researchers, and policymakers are imperative to address the complex interplay between COVID-19 infection and neurological complications such as Sydenham chorea. By fostering interdisciplinary collaboration and advancing scientific knowledge, we can develop effective strategies to mitigate the impact of CRSC on affected individuals and communities, ultimately improving patient outcomes and enhancing public health resilience in the face of the ongoing COVID-19 pandemic.