# Neurological Complications and Sequalae of COVID-19 By Dr Gautam Arora MD Neurologist

*Brain and CoronaVirus By Dr Gautam Arora*

Dr Gautam Arora

MONROE, NJ, USA, February 22, 2022 /EINPresswire.com/ -- Several cases of neurological complications have been reported in patients with COVID-19. Although some complications present as non-specific symptoms, such as headache, fatigue, and altered mental status.The incidence of non-specific neurological symptoms in patients with confirmed COVID-19 diagnosis has been reported by several studies. These symptoms include headache, altered mental status, dizziness, depressed level of consciousness, ageusia (loss of taste), anosmia (loss of smell), myalgia and fatigue . Several neurological complications have been described in patients with COVID-19. Certain neurological symptoms were reported independently by several reports and studies, which suggest a potential real association with the pathogenesis of COVID-19. A study by Zhang and colleagues reported the clinical characteristics of 140 hospitalized COVID-19 patients.

> Neurotoxicity of Corona. A long term challenge!"
> *Dr Gautam Arora Neurologist*

ACUTE ENCEPHALOPATHY. Encephalopathy is a global cerebral dysfunction associated with infection, fever, drug exposure, and metabolic derangement. This altered functional state is a relatively common presenting symptom of severe COVID-19 disease. ACUTE CEREBROVASCULAR DISEASES Acute ischemic stroke.Acute hemorrhagic stroke (rare).Cerebral venous sinus thrombosis In a prospective cohort study by Cummins and colleagues, a total of 1150 patients with confirmed COVID-19 and a median age of 62 years were included. Among this cohort of patients, 22% were critically ill, and 67% of the critically ill patients were men

CENTRAL NERVOUS SYSTEM INFECTIONS. Encephalitis, meningitis

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Encephalitis is characterized by brain inflammation that can cause morbidity and death if left untreated. In acute viral encephalitis, the virus replicates in brain tissue, leading to significant central nervous system insults. Studies in mice have shown that the human coronavirus can infect neurons and subsequently cause persistent infection in human neural-cell lines. Postinfectious demyelination. Acute disseminated encephalomyelitis is a monophasic, demyelinating disease of the central nervous system characterized by multifocal white matter demyelination in the setting of a rapidly progressive encephalopathy. An antecedent infectious process before the onset of central nervous system symptoms is common; however, the cause is typically only found in a small percentage of cases . Acute necrotizing hemorrhagic encephalopathy. This complication is pathologically distinguished from acute disseminated encephalomyelitis by causing blood-brain barrier breakdown without direct viral invasion or demyelination. Brane and colleagues carried out a study to identify the cells that are susceptible to SARS-CoV-2 infection and found that the supporting cells in the olfactory epithelium express comparable levels of the virus entry receptors similar to those found in the lung

SEIZURES. Patients with electroencephographic findings, including continuous slowing, generalized activity, and generalized periodic discharges.26
These studies support the high incidence of encephalopathy in hospitalized patients with COVID-19 and the presence of acute symptomatic seizures from an underlying metabolic or toxic process or primary central nervous system insult as a complication of COVID-19. Madani and colleagues used computational methods to identify the proteins that may act as autoantigens in COVID-19 patients with neurological complications.

NEUROMUSCULAR DISORDERS. Critical illness polyneuropathy and myopathy. Patients in the intensive care unit are at risk of developing severe weakness secondary to critical illness polyneuropathy, critical illness myopathy, or both Acute inflammatory demyelinating polyneuropathy .Acute inflammatory demyelinating polyneuropathy (more commonly known as

Guillain-Barré syndrome), is an autoimmune demyelinating disorder of the peripheral nervous system usually following an antecedent infection. It is characterized by parathesias, areflexia, and ascending weakness that may lead to respiratory failure.

CRANIAL NEUROPATHY. Olfactory neuropathy. Anosmia and dysgeusia are common symptoms associated with COVID-19, and are likely due to the virus directly accessing the olfactory bulb. NEUROCOGNITIVE IMPAIRMENT. Mental fatigue and mild inattention has been frequently reported in patients with COVID-19. A retrospective study by Mao and colleagues, which included 214 patients, demonstrated that 36.4% of these patients experienced neurological manifestations.

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Khaniya Gupta
NPMC Neurology and Pain Management Clinic
+91 85951 68556
info@neuroandpain.clinic

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