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## Impact of COVID-19 on Neuroinflammation and Other Neurological Disorders

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### ABSTRACT

Coronavirus disease 2019 is an infectious disease which causes severe acute respiratory syndrome. It is expected to kill millions of people throughout the world. According to recent research, SARS-CoV-2 affects the central nervous system and other organs. Also, COVID-19-related problems have been seen in persons with neurological disorders such as stroke, Parkinson's disease, and Alzheimer's disease. On the cellular and molecular level, it has been seen that SARC-CoV-2 induces neuro-inflammation. Here we have discussed about viral replication as well as inflammation caused by SARS-CoV-2. Activation of the innate immune system is associate with increased cytokine level and free radicals in the SARC-CoV-2 induced pathogenic response at the blood brain barrier. Blood brain barrier disruption allows immune/inflammatory cells into the CNS, activating immune resident cells (such as microglia and astrocytes). We also include COVID-19-related neurological issues as well as their treatments and vaccinations for successful management. At last different receptors involved in the development of neuro-inflammation and other neurological disorders have been discussed. A better understanding of these mechanisms will help gain substantial knowledge about the potential role of SARC-CoV-2 in neurological changes and plan possible therapeutic strategies.

**Keywords:** COVID-19; neuroinflammation; neurological disorders; SARS-CoV-2; Alzheimer's disease

