

Neurological Manifestations of Patients Hospitalized with COVID-19 Diagnosis at OLSU-S (1892)

Junaid Ansari, Department of Neurology, LSU Health Sciences Center Shreveport

Alexas Gaudet, School of Medicine, LSU Health Sciences Center Shreveport

Jessica Hicks, School of Medicine, LSU Health Sciences Center Shreveport

Alena Stevens, Department of Neurology, LSU Health Sciences Center Shreveport

Eduardo Gonzalez-Toledo, Department of Radiology, LSU Health Sciences Center Shreveport

Rosario Maria Riel-Romero, Department of Neurology, LSU Health Sciences Center Shreveport

Felicity N.E. Gavins, Division of Biosciences, Department of Life Sciences, Brunel University London

Roger Kelley, Department of Neurology, LSU Health Sciences Center Shreveport

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Abstract

Objective:

To determine the spectrum of neurological manifestations among COVID-19 patients admitted to Ochsner-Louisiana State University Health Sciences Center, Shreveport (OLSU-S) after SARS-CoV-2 positive results.

Background:

Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is associated with increased incidence and prevalence of well-defined neurological manifestations. Based on clinical reports there is vast spectrum of neurological disorders associated with COVID-19 patients including metabolic encephalopathy, cerebrovascular disease, seizure disorder, and myelopathies.

Design/Methods:

We conducted a retrospective, observational study of hospitalized adult patients (age > 18 years) admitted to OLSU-S with laboratory confirmed SARS-COV-2. All clinical data was reviewed including epidemiology, clinical features, laboratory data, neuroradiological findings, hospital management and course from 150 patients hospitalized for COVID-19 management at OLSU-S.

Results:

We screened 150 patients admitted to OLSU-S with COVID-19 for the development of neurological diagnosis during their hospital course. 19 (12.66%) patients presented with new neurological signs and symptoms and were subsequently diagnosed with a neurological disorder within the active COVID-19 infection period. The most common new neurological manifestation seen with COVID-19 was acute cerebrovascular accidents (CVA) (6%) followed by encephalopathy (4.66%), seizures (4%) and Guillain-Barre like syndrome (1.33%). The mean age of patients with neurological diagnosis was 60.74 ± 14.58 (standard deviation) (age range 25–76). The common neuroradiological diagnosis on COVID-19 patients with acute CVA includes middle cerebral artery infarction, venous infarction and hemorrhagic CVA. The most common EEG findings was diffuse background slowing consistent with moderate encephalopathy. 26% of the patients with new neurological diagnosis during acute COVID-19 had rapid clinical deterioration resulting in death.

Conclusions:

Our observations confirm the increased incidence of neurological manifestations seen in COVID-19 patients, with the elderly population being more susceptible. The subsequent development of a neurological disorder during COVID-19 was found to be associated with worse clinical outcomes and an overall poor prognosis.

Disclosure:

Dr. Ansari has nothing to disclose. Jessica Hicks has nothing to disclose. Alena Stevens has nothing to disclose. Eduardo Gonzalez-Toledo has nothing to disclose. Dr. Riel-Romero has received personal compensation for serving as an employee of MDA. Dr. Riel-Romero has received personal compensation for serving as an employee of MDA. Dr. Riel-Romero has received stock or an ownership interest from GE. Dr. Riel-Romero has received stock or an ownership interest from Biomarin. Dr. Riel-Romero has received stock or an ownership interest from Intuitive Surgical. Dr. Riel-Romero has received stock or an ownership interest from Cyberonics. Dr. Riel-Romero has received personal compensation in the range of \$50,000-\$99,999 for serving as a Professor with LSU. An immediate family member of Dr. Riel-Romero has received personal compensation in the range of \$100,000-\$499,999 for serving as a Surgeon with VA. Felicity Gavins has nothing to disclose. Dr. Kelley has nothing to disclose.