

Neurologic Manifestations of COVID-19



Approximately 10-15% of patients with COVID-19 require ICU treatment. Respiratory failure and multi-organ dysfunction are the most common indications for ICU admission. However, nearly 1/3 of COVID-19 patients also present with neurologic manifestations. Neurologic manifestations are believed to predict mortality and functional outcome.

While there have been reports of neurologic manifestations in patients with COVID-19, data on the prevalence, predictors and relevance of outcome of neurological manifestations in patients who require intensive care are scarce.

In a multicentre, observational registry study PANDEMIC (Pooled Analysis of Neurologic Disorders Manifesting in Intensive care of COVID-19), researchers characterise the prevalence, risk factors and impact on outcome of neurologic manifestations in critically ill COVID-19 patients. Three hundred and ninety-two COVID-19 patients with neurologic manifestations admitted to 19 German ICUs were included in the study. The researchers performed descriptive and explorative statistical analyses to investigate the factors associated with disorder categories and their underlying diagnoses and also identified predictors of outcome.

During the study period, 2681 patients were treated at the ICUs of the participating centres. Neurologic disorders were identified in 350 patients, suggesting a prevalence of COVID-19-associated neurologic disorders of 12.7%. Encephalopathy (46.2%), cerebrovascular (41.0%) and neuromuscular disorders (20.4%) were the most frequent categories reported. In-hospital mortality was 36%. The functional outcome was poor in 70.9% of the surviving patients at discharge. Intracerebral haemorrhage and acute ischaemic stroke were the strongest predictors of poor outcomes among the study patients.

In 12.7% of the severely ill COVID-19 patients in this study group, neurologic manifestations increased mortality and morbidity. No evidence of direct viral affection of the nervous system by COVID-19 has been observed. The neurologic manifestations could be indirect para- or postinfectious sequelae of the infection or severe critical illness.

These findings highlight the importance of actively looking out for and treating neurologic ICU complications in severely ill COVID-19 patients.

Source: [Critical Care](#)

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