

## A Brief Overview of Neurological Manifestations in COVID-19 Infections Involving Children

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Quotation: “neurological manifestations among children in the current era of the COVID-19 pandemic, clearly indicate the urgent need for pediatricians and pediatric neurologists to test for the presence of COVID-19 infection in children when there is a sudden appearance of unexplained neurological manifestations”.

The well known scenario of a COVID-19 symptoms has been associated with fever, dry cough, fatigue and shortness of breath [1-3]. These symptoms usually are seen from 2 to 14 days from the time that the victim had initially been exposed to the source of infection [1-4]. It has also been well established that this infection can also spread to other organs of the body.

COVID-19 infections are now being more frequently seen to cause neurological problems [4-8]. Patients have been reported to display such neurological manifestations as: acute cerebrovascular diseases, impaired consciousness, and skeletal muscular injury [4-8].

It has been reported that COVID-19 infections involving adult patients who were less 50 years of age are often being associated with the occurrence of large vessel strokes [7].

The Literature has also reported a case of Acute Necrotizing Encephalitis in a 58 year old female victim of COVID-19 [5]. Acute Necrotizing Encephalitis is more frequently seen in young children [5].

A new and alarming new development in the ever evolving saga of the COVID-19 pandemic involves neurological manifestations experienced by children just recovering from the acute states of Coronavirus COVID-19 (they had been on a ventilator) [9].

One such pediatric patient started to hallucinate. This individual saw individuals were “not really there” [9]. This pediatric patient also experienced cases of repeated seizures, which had left this child totally exhausted. The child required long periods of rest in the Intensive Care Unit. This child also experienced a regression to a younger age [9]. This latter finding was linked to a case of encephalitis. The antibody tests for this specific child came back negative, however [1].

In other pediatric COVID-19 cases in which there had occurred neurological manifestations, both the Peripheral and Central Nervous Systems were involved [10].

What is quite remarkable is that in many of these cases involving neurological consequences, there was as an absence of the classical respiratory symptoms of Coronavirus COVID-19 infection [10].

An interesting finding that was observed in several pediatric cases with neurological involvement was the discovery of the presence of lesions of the splenium of the corpus callosum [10].

In another group of pediatric cases with classical severe COVID-19 respiratory infection, it was observed that these children also displayed additional newly emerging neurological manifestations such as: “encephalopathy, headaches, brainstem, cerebellar signs, muscular weakness, and reduced reflexes” [10].

These pediatric cases involving neurological manifestations among children in the current era of the COVID-19 pandemic, clearly indicate the urgent need for pediatricians and pediatric neurologists to test for the presence of COVID-19 infection in children when there is a sudden onset of unexplained neurological manifestations.

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