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## Correspondence

## COVID-19 and Pediatric Neurology Practice in a Developing Country



We read with great interest the article by Pavlakis et al. summarizing the scenario in New York City during the coronavirus disease 2019 (COVID-19) pandemic and providing an approach for managing the associated neurological complications.<sup>1</sup> The authors highlight the role of “thromboinflammation” in the pathogenesis in adults. However, its role in children is debatable. Besides, the authors mention that neurological dysfunction secondary to COVID-19 in children is limited to case reports. We concur with the authors and would like to mention the other evolving hypotheses for COVID-19 pathogenesis in children and underscore the distinctive challenges faced by pediatric neurologists in a developing country.

Vasculitis (endothelitis) and delayed overactivation of the STING pathway are the other proposed hypotheses underlying complications of COVID-19 in children such as Kawasaki-like disease, chill blains, hemophagocytic lymphohistiocytosis, etc.<sup>2</sup> Several age-related factors such as enhanced thrombin inhibition due to elevated  $\alpha_2$ -macroglobulin are considered protective against thrombotic complications in children.<sup>3</sup> Serial assessments of various coagulation parameters along with disseminated intravascular coagulation scoring and risk factor-based approach should be followed in children, considering our limited understanding of the disease.<sup>4</sup> The expanding spectrum of COVID-19 in children includes various neurological manifestations like refractory status epilepticus, encephalitis, central apnea, Guillain-Barré syndrome.<sup>5-7</sup> As some of these may adversely affect the long-term neurodevelopmental outcome, these children should be followed. Evidence of elevated levels of serum neurofilament light chain (marker of neuroaxonal destruction) in patients with COVID-19 with mild to moderate symptoms reinforces this concern.<sup>8</sup>

The challenges faced by pediatric neurologists in a developing country are distinctive. A few centers run round-the-clock child neurology telephone and teleconsultation services, and restricted availability of video calling and internet availability at rural households limits their efficient use. Specialized services such as dietary therapy and surgery for drug-refractory epilepsy are offered only at a few centers. Due to the fear of contracting this disease and travel restrictions, it is now more difficult for caregivers to access these specialized centers. Hence, the treatment gap for various

neurological disorders is expected to increase with this burgeoning pandemic.<sup>9</sup> We observed an increase in the number of children presenting in advanced stages of neurotuberculosis and other neurological disorders after the pandemic began, possibly reflecting a delay in seeking initial care for mild symptoms. Additionally, with the economic slowdown, the expenditure on health care takes a backseat for many families who struggle to make the ends meet. Empowering primary health care workers, strengthening essential services such as immunization, and developing telemedicine facilities are some of the key strategies to optimize care in resource-constrained settings.

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Juhi Gupta, MD

Center of Excellence & Advanced Research on Childhood Neurodevelopmental Disorders, Child Neurology Division, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi, India

Priyanka Madaan, DM

Pediatric Neurology Unit, Department of Pediatrics, Advanced Pediatrics Centre, Post Graduate Institute of Medical Education & Research, Chandigarh, India

Sayoni Roy Chowdhury, MD, Sheffali Gulati, MD

Center of Excellence & Advanced Research on Childhood Neurodevelopmental Disorders, Child Neurology Division, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi, India  
E-mail address: [sheffaligulati@gmail.com](mailto:sheffaligulati@gmail.com) (S. Gulati).

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