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Correspondence

Diagnostic Tests in Pediatric Patients With COVID-19 With Cerebrovascular Complications



We read with interest the recent article by Spanelova et al.,¹ describing a case series of four pediatric patients with cerebrovascular complications of coronavirus disease 2019 (COVID-19) infection. This article was informative, and we would like to have a discussion on certain parts of the cases.

Patient 1 was diagnosed with COVID-19-associated meningoencephalitis with subdural and intracerebral hemorrhage.¹ It was not uncommon that magnetic resonance imaging showed pachymeningeal enhancement in patients with COVID-19 with neurological symptoms and could be attributed to different etiologies.² The presence of altered mental status might be important for diagnosing meningoencephalitis. More supporting information such as cerebrospinal fluid COVID-19 polymerase chain reaction result and electroencephalogram should be shared to confirm a diagnosis of COVID-19-associated meningoencephalitis.

Patient 3 was diagnosed with post-COVID-19 lacunar ischemic stroke.¹ It was because the patient's father died of an ischemic stroke at a young age that more tests were warranted to determine if the stroke was precipitated by COVID-19 infection or happened by coincidence. These tests included but were not limited to blood

pressure screening, electrocardiogram, echocardiogram, and lipid profile.

References

1. Španělová K, Skříšová T, Mužlayová P, et al. Cerebrovascular complications of COVID-19 disease in children: a single-center case series. *Pediatr Neurol.* 2022;134:18–24.
2. Lewis A, Jain R, Frontera J, et al. COVID-19 associated brain/spinal cord lesions and leptomeningeal enhancement: a meta-analysis of the relationship to CSF SARS-CoV-2. *J Neuroimaging.* 2021;31:826–848.

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