



# Fulminant Encephalitis Caused by SARS-CoV-2 in a Two-Month-Old Infant

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Received: 13 September 2022 / Accepted: 4 November 2022 / Published online: 28 November 2022  
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*To the Editor:* In January 2022, a 2-mo-old male infant presented to our emergency department with seizures. A few hours earlier, he did not claim feeding and sleep. Then, he was found hypotonic with rolling eyeballs and abnormal movements. On examination, he had hemodynamic instability. The patient's PCR nasal swab was positive for SARS-CoV-2. The brain computed tomography SCAN identified areas of hypodensity at the supra- and subtentorial floors, semioval center, insular region, and the posterior part of the brainstem suggestive of acute encephalitis syndrome. Resuscitation failed, and the death occurred 12 h after the admission. A postmortem lumbar puncture was performed, and the count of white blood cells and red blood cells in the cerebral spinal fluid (CSF) were  $< 1$  leukocyte/mm<sup>3</sup> and 400/mm<sup>3</sup> respectively. Proteinoachia was 2.33 g/L and glycorachia was 6.9 mmol/L. PCRs for common neurotropic viruses in the CSF, including SARS-CoV-2 were all negative.

It was known from the start that the virus could access the central nervous system through the bloodstream since we frequently observed the loss of smell. In a brain autopsy series, it has been reported that hemorrhage was the most common abnormality, followed by acute infarcts and cases of mild to severe edema [1]. The authors reported, on examination, convulsive status and disturbance of consciousness, nystagmus, and apnea [2, 3]. In our patient's case, radiologic findings did not suggest a postinfectious process, nor were brainstem hypodensities suggestive of status epilepticus

damages. Therefore, we postulate that the SARS-CoV-2 infection caused fulminant encephalitis. Neurological symptoms and radiologic findings occurring early in the course of the disease support this hypothesis. We could not assess the presence of this virus in the CSF. Yet, it was done in 2/59 of pediatric cases according to Lewis et al. [4].

## Declarations

**Conflict of Interest** None.

## References

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