



Multisystem Inflammatory Syndrome Complicated by Acute Encephalopathy

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To the Editor: Although neurological complications have been reported to occur in 13%–21% of patients with multisystem inflammatory syndrome in children (MIS-C) [1, 2], complications of acute encephalopathy have rarely been reported.

A 4-y-old boy with a history of COVID-19 infection 4 wk before, had fever 2 d before the visit. He had fever, conjunctivitis in both eyes, cervical lymphadenopathy, and edema and desquamation at the ends of the extremities, which are among the criteria for diagnosing Kawasaki disease, and was treated with intravenous immunoglobulin (IVIG) and aspirin. Subsequently, his fever persisted and troponin-T level was mildly elevated; echocardiography revealed mildly depressed cardiac function. Mild disturbance of consciousness was also observed and persisted. In addition, multiple apneic episodes were observed.

Magnetic resonance imaging revealed no abnormal signals; cerebrospinal fluid examination PCR for SARS-CoV-2 yielded negative results. MIS-C–induced encephalopathy was suspected, and the patient was given a second dose of

IVIG and a 3-d course of steroid pulse therapy. On the second day of hospitalization, EEG revealed generalized, synchronized, high-amplitude slow waves, which improved on the fourth day of hospitalization, and the level of consciousness also improved. In the 3 mo since the onset of the disease, no obvious neurological sequelae have been observed.

Encephalopathy can occur at the same time as MIS-C as a complication after COVID-19. To our knowledge, only 5 cases of encephalopathy caused by MIS-C have been reported. One was a case of a 33-mo-old boy who showed somnolence and slow waves on EEG [3], and the remaining 4 cases showed new neurologic symptoms and splenic changes on imaging [1]. Because the onset of the encephalopathy was almost simultaneous with the onset of MIS-C, the encephalopathy in this case might have been caused by a cytokine storm-type process.

Declarations

Ethical Approval Written informed consent was obtained from the patient for publication of this paper.

Conflict of Interest None.

References

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