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Letter to the Editor

Suspicion of SARS-CoV-2-Related Myelitis Requires Evidence

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With interest we read the article by Thabet *et al.* [1] on a 3 year-old male with flaccid monoparesis of the right upper limb without sensory disturbances or pain being attributed to SARS-CoV-2-related myelitis [1]. The study is excellent but has limitations that are cause of concerns.

We disagree that the patient had COVID-19 and that myelitis was causally related to SARS-CoV-2. It was reported that the patient never tested positive for SARS-CoV-2 on RT-PCR. RT-PCR for SARS-CoV-2 was negative in the CSF [1]. He only had elevated anti-SARS-CoV-2 antibodies [1]. Because these can be elevated for up to 15 months [2]. Transmission of SARS-CoV-2 from parent to child remains unproven. In addition, the latency between the parental SARS-CoV-2 infection and the onset of monoparesis was imprecisely given as “weeks after infection” [1].

In addition, several differential causes of myelitis or radiculitis due to infection with bacteria, viruses, fungi, or parasites that can cause Guillain-Barre syndrome (GBS) were not adequately ruled out. The most important include Zika, HIV, hepatitis, influenza, dengue, mycoplasma pneumoniae, and campylobacter jejuni [3].

Myelitis is a central nervous system disease, which is why we would expect exaggerated tendon reflexes. Surprisingly, the patient had reduced tendon reflexes, suggesting that the peripheral nervous system was involved. This discrepancy should be solved. Were reduced tendon reflexes attributable to concomitant radiculitis?

A further limitation is that the CSF was not examined for cytokines, chemokines, glial factors, 14-3-3, neopterin, neurofilament light chain, total-tau, and abeta1-42 [4, 5]. In patients with SARS-CoV-2-associated GBS [4] or encephalitis [5] these parameters can be elevated in the CSF [4, 5]. Several other examinations such as oligoclonal bands and visually-evoked potentials are also missing.

Missing are the results of F-wave studies. Since the patient had enhancement of peripheral nerve roots, it is quite likely that F-wave latencies were prolonged or F-wave responses absent or reduced.

It should be explained why the patient did not present with quadriplegia. According to figure-1 there was radiculitis of cervical and lumbosacral nerve roots, suggesting that all four limbs were paretic.

We disagree with the statement in the discussion that no pediatric patients with SARS-CoV-2-related myelitis have been reported to date [1]. Brisca *et al* in addition to others have reported a 7 months-old female with SARS-CoV-2 infection-related longitudinally extensive transverse myelitis [6].

Before attributing monoparesis to SARS-CoV-2-related myelitis, all differential causes need to be thoroughly ruled out. Because the index patient also had nerve root enhancement, he suffered from both, myelitis and GBS.

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Statement of Ethics: a) The study was approved by the institutional review board (responsible: Finsterer J.) at the 4th November 2022. b) Written informed consent was obtained from the patient for publication of the details of their medical case and any accompanying images.

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Compliance with Ethics Guidelines: This article is based on previously conducted studies and does not contain any new studies with human participants or animals performed by any of the authors.

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