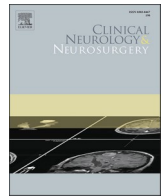




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Correspondence/Letter to Editor

**SARS-CoV-2 vaccination complicated by acute, disseminated encephalo-myelitis?**

ARTICLE INFO

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To the Editor,

With interest we read the article by Vogrig et al. about a 56 year old female who developed malaise and chills 6 days and gait disturbance and clumsiness of the left arm 7 days after the first dose of an mRNA-based SARS-CoV-2 vaccine [1]. After extensive work-up the diagnosis acute, disseminated encephalo-myelitis (ADEM) was established. The patient profited partially from steroids [1]. We have the following comments and concerns.

The main limitation of the study is that the magnetic resonance imaging (MRI) findings do not comply with the clinical presentation [1]. The patient presented with M4 weakness of the left upper extremity but no corresponding lesion was demonstrated on MRI. The small white matter lesions on the right side do not explain muscle weakness as they do not affect the first motor neuron of the pyramidal tract.

A further limitation is that results of spinal cord imaging were neither described nor presented as an image. Since ADEM requires per definition the presence of myelitis [2], it is crucial that spinal MRI findings are presented to eventually explain weakness of the left upper extremity.

Another limitation is that the outcome at follow-up 50 days after onset of symptoms was only insufficiently reported [1]. Obviously, the patient experienced only incomplete recovery with mild persisting dysmetria, persisting intention tremor, and minor difficulties with tandem gait [1]. Missing is the evolution of the left upper limb paresis. We should be told if the patient also profited from steroids with regard to muscle weakness.

The left sided supra-tentorial lesion and left sided peduncular lesion did neither enhance upon application of contrast medium nor were they hyperintense on diffusion weighted imaging (DWI) [1]. We should be informed about the finding on apparent diffusion coefficient (ADC) maps, on perfusion weighted imaging (PWI), and on susceptibility weighted imaging (SWI). Missing are also the results of magnetic resonance spectroscopy (MRS) and of the FDG-positron emission tomography (PET). Is it conceivable that the lesions were old and originated from the recurrent herpetic infections during previous years?

A further argument against the diagnosis ADEM is that the patient did not present with fever, headache, confusion, or seizures. Furthermore, the MRI lesions were not poorly marginated as usually seen in

other ADEM patients.

Missing is a discussion of previous cases with ADEM after SARS-CoV-2 vaccinations. Post-SARS-CoV-2 vaccination ADEM has been reported in a 46 year old female who presented with a first seizure one month after the second dose of a vector based SARS-CoV-2 vaccine [3] and in a 24 year old female with impaired memory, headache, fever, muscle stiffness, weakness, and anorexia two weeks after the first dose of a vector-based SARS-CoV-2 vaccine [4].

Overall, the study has several limitations which challenge the results and their interpretation. Particularly, the diagnosis ADEM remains questionable.

Informed consent

Informed consent was obtained. The study was approved by the institutional review board.

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None.

Author contribution

Josef Finsterer: design, literature search, discussion, first draft, critical comments.

Conflict of interest

There are no conflicts of interest.

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