Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Multiple Sclerosis and Related Disorders 62 (2022) 103809

Contents lists available at ScienceDirect

Multiple Sclerosis and Related Disorders

journal homepage: www.elsevier.com/locate/msard

Commentary

Neuromyelitis optica complicating COVID vaccinations

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ARTICLE INFO

Keywords
SARS-CoV-2
COVID-19
Vaccination
Side effects
Safety profile

Letter to the Editor

We read with interest the article by Anamnart et al. about two patients experiencing neuromyelitis optica spectrum disorder (NMOSD) following a SARS-CoV-2 vaccination and a review of 8 patients experiencing NMOSD after a non-SARS-CoV-2 vaccination (Anamnart et al., 2022). It was concluded that post-vaccination NMOSD is rare but can occur with various different types of vaccines (Anamnart et al., 2022). The study is attractive but raises concerns that should be discussed.

We disagree with the finding, that only two patients with SARS-CoV-2 vaccination associated NMOSD have been reported thus far (Anamnart et al., 2022). Newly developing NMOSD after a SARS-CoV-2 vaccination with the mRNA-1273 (Moderna) vaccine (MOV) has been recently reported in a 46 years old female with a past medical history of vitamin B12 deficiency (Fujikawa et al., 2021). The patient developed shooting pain (VAS 10) between the shoulder blades two days after having received the first dose of the MOV (Fujikawa et al., 2021). Three days later, she developed lower limb paraparesis with paresthesias distal to the level Th10 (Fujikawa et al., 2021). Despite application of steroids, urinary retention developed one day later. MRI of the cervical spine revealed a T2-hyperintense, intramedullary, non-expansive, and non-enhancing lesion involving the grey matter C6 to Th2 (Fujikawa et al., 2021). Despite normal AQP-IgG antibodies NMOSD was diagnosed and steroids restarted resulting in incomplete recovery at the last follow up (Fujikawa et al., 2021). Post-SARS-CoV-2 vaccination NMOSD has been also reported in a 32 years old male who developed balance impairment and a confusional state one week after the second dose of the Sputnik-V vaccine (Badrawi et al., 2021). Cerebral and spinal MRI showed patchy, FLAIR hyperintense lesions along the ependymal surface of the lateral, third, and fourth ventricles, thalamus, corpus callosum, and optic chiasm (Badrawi et al., 2021). Since AQP-IgG antibodies were positive, NMOSD was diagnosed and upon several plasmaphereses incomplete recovery could be achieved (Badrawi et al., 2021). Newly developing NMOSD manifesting with dizziness and gait disturbance has been also reported in a middle-aged female who had received the first dose of an inactivated SARS-CoV-2 vaccine two months before (Chen et al., 2021). The patient profited significantly from steroids (Chen et al., 2021).

We should be told how the authors excluded that NMOSD was a condition already present in a subclinical or mildly symptomatic state prior to the SARS-CoV-2 vaccination. It is well known that SARS-CoV-2 vaccinations can trigger relapses of NMOSD (Cai et al., 2022). In a study of 30 patients with aquaporin (AQP)-IgG positive NMOSD, one of 26 patients (4%) experienced a relapse within one month of the SARS-CoV-2 vaccination (Dinoto et al., 2022). Nonetheless, it was concluded that the potential benefits of SARS-CoV-2 vaccinations outweighs the risk of a NMOSD relapse (Dinoto et al., 2022).

Overall, the interesting study has some limitations that call the results and their interpretation into question. Clarifying these weaknesses would strengthen the conclusions and could add value to the study. Post-SARS-CoV-2 vaccination NMOSD is more frequent than anticipated why neurologists should stay vigilant for NMOSD as a putative complication of SARs-CoV-2 vaccinations.

CRediT authorship contribution statement

Josef Finsterer: Conceptualization, Visualization, Data curation, Formal analysis, Methodology, Writing – original draft.

Abbreviations: NMOSD, neuromyelitis optica spectrum disorder; MOV, Moderna vaccine.

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https://doi.org/10.1016/j.msard.2022.103809
Received 9 April 2022; Accepted 15 April 2022
Available online 17 April 2022

Declaration of Competing Interest

The author declares no conflicts of interest.

Funding sources

No funding was received.

Acknowledgment

None.

Ethics approval

Was in accordance with ethical guidelines. The study was approved by the institutional review board.

Consent to participate

Was obtained from the patient.

Consent for publication

Was obtained from the patient.

Availability of data

All data are available from the corresponding author.

Code availability

Not applicable.

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