Int. j. adv. multidisc. res. stud. 2022; 2(5):214-215

Received: 28-08-2022
Accepted: 07-09-2022

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Letter to the Editor

Vestibular complications after SARS-CoV-2 vaccinations

Josef Finsterer
Neurology & Neurophysiology Center, Vienna, Austria

Corresponding Author: **Josef Finsterer**

We read with interest the article by Shahali *et al*. about a 51 years-old male who developed spontaneous, horizontal-torsional nystagmus, vertigo, nausea, and emesis 11 days after the first dose of the ChAdOx1 vaccine, also known Astra Zeneca vaccine (AZV) [1]. Caloric test and head impulse test were abnormal, and the patient did not tolerate the head-thrust test [1]. He recovered incompletely upon prednisolone, promethazine, ondansetron, meclizine, and lorazepam at the one-year follow-up [1]. The study is appealing but raises concerns that should be discussed.

We disagree with the statement that the index patient is the first reported patient with neuronitis vestibularis as a complication of the AZV vaccine. In a recent study by Medina *et al*., six patients with vestibular complications after the AZV had been reported [2]. Patient-1, a 61 years-old male, developed tinnitus and hypoacusis 10 days after the second AZV dose [2]. He profited from dexamethasone and a tympanostomy tube [2]. Patient-2, a 45 years-old female, developed right tinnitus and hypoacusis 10 days after the second AZV dose which subsided upon application of prednisone [2]. Patient-3, a 44 years-old male, developed bilateral hearing loss and tinnitus 18 days after the second AZV dose and profited from prednisone [2]. Patient-4, a 39 years-old male, developed sudden right tinnitus and hearing loss following the first AZV dose 11 days before and completely recovered under prednisone [2]. Patient-5, a 43 years-old male, developed tinnitus and impaired hearing 14 days after the second AZV dose who did not profit from prednisone and was lost to follow-up [2]. Patient-6, a 40 years-old female, presented with nystagmus, vertigo, nausea, and vomiting 21 days after the first AZV dose [2]. She was treated with diphenidol, ondansetron, and dexamethasone under which she achieved an incomplete recovery at the one-month follow-up [2].

There is a discrepancy between the title and the conclusions [1]. In the title a causal relation between vaccination and vestibular neuritis is definite [1]. However, in the conclusions a causal the between vaccination and vestibular neuritis is only suspected [1]. This discrepancy should be solved. A strong argument against a causal relation is the fact that only very few cases with vestibular neuritis following an anti-SARS-CoV-2 vaccination have been reported [3].

A limitation of the study is that the cerebral magnetic resonance imaging (MRI) had been carried out without contrast medium. Affection of the proximal cranial nerves in SARS-CoV-2 infections or post-vaccination complications can be documented by enhancement of the roots of affected carinal nerves [4].

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 improve the study. Though vestibular complications of SARS-CoV-2 vaccinations are rare, they should be added to the spectrum of adverse events following a SARS-CoV-2 vaccination and should be considered if all differential diagnoses have been thoroughly ruled out.

Acknowledgements: None

Funding: No funding was received

Author contribution: JF: design, literature search, discussion, first draft, critical comments, final approval.

Disclosures: The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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.

Keywords: COVID-19, SARS-CoV-2, Vaccination, Complication, Vestibulum, Hearing

References

1. Shahali H, Hamidi Farahani R, Hazrati P, Hazrati E. Acute vestibular neuritis: A rare complication after the adenoviral vector-based COVID-19 vaccine. J Neurovirol, 2022, 1-7. Doi: 10.1007/s13365-022-01087-y.
2. Canales Medina M, Ramirez Gómez M. Tinnitus, Sudden Sensorineural Hearing Loss, and Vestibular Neuritis as Complications of the Astra Zeneca COVID-19 Vaccine. Cureus. 2022; 14(1):e20906. Doi: 10.7759/cureus.20906.
3. Schmid MB, Bächinger D, Pangalu A, Straumann D, Dlugaiczyk J. Acute Unilateral Peripheral Vestibulopathy After COVID-19 Vaccination: Initial Experience in a Tertiary Neurotology Center. Front Neurol. 2022; 13:917845. Doi: 10.3389/fneur.2022.917845.
4. Finsterer J, Scorza FA, Scorza C, Fiorini A. COVID-19 associated cranial nerve neuropathy: A systematic review. Bosn J Basic Med Sci. 2022; 22(1):39-45. Doi: 10.17305/bjbms.2021.6341.