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.

Journal of Neuroimmunology 360 (2021) 577703

Contents lists available at ScienceDirect

Journal of Neuroimmunology

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

Letter to the Editor

SARS-CoV-2 vaccinations may not only be complicated by GBS but also by distal small fibre neuropathy

ARTICLE INFO

Key words
SARS-CoV-2
COVID-19
Guillain-Barre
Small fiber neuropathy
Pain

With interest we read the article by Min et al. about two patients with pure sensory Guillain-Barre syndrome (GBS) three (patient-1) respectively four days (patient-2) after the first dose of a vector-based SARS-CoV-2 vaccine (Astra Zenica) (Min et al., 2021). It was concluded that "vigilance of GBS following COVID-19 vaccinations is mandatory to determine a causal association" (Min et al., 2021). The study is appealing but raises concerns which require discussion.

We strongly disagree that patient-2 had pure sensory GBS. GBS is usually diagnosed according to the Brighton criteria, which request investigation of the cerebro-spinal fluid (CSF). However, patient-2 did not undergo CSF investigations. A further argument against a small fibre ganglionopathy (type 3 sensory GBS) is that skin biopsy was taken from the distal leg and decreased intra-epidermal nerve fiber density cannot be explained by a proximal, ganglionic lesion four days after the vaccination. Degeneration of the axon from the proximal end to the distal end within four days is quite unlikely. Thus, more likely than small fibre ganglionopathy patient-2 had distal small fibre neuropathy (SFN). Arguments for distal SFN are that it has been reported as a side effect of a SARS-CoV-2 vaccination previously (Waheed et al., 2021) and that gabapentin, duloxetine, and tramadol were at least partially effective. Ganglioside antibodies have no diagnostic role according to the Brighton criteria.

Distal SFN frequently involves the autonomic fibers why we should know if patient-2 presented with autonomic dysfunction such as postural tachycardia syndrome (POTS), syncope, near-syncope, sudomotor dysfunction (dyshidrosis), reduced heart rate variability, reduced blood pressure variability, disturbed thermoregulation, urinary retention, or impotentia. We also should know the results of deep breathing, Valsalva maneuver, tilt test, cerebral blood flow velocity, corneal confocal microscopy (CCM), and of pain-related evoked potentials (PREP), tests to confirm or exclude SFN.

We also do not agree that GBS in patient-1 was pure sensory, as the title of the paper suggests. There was an absent motor response on the right peroneal nerve and temporal dispersion in the left peroneal nerve, suggesting that also motor nerves were subclinically involved.

We should be told how preserved tendon reflexes in all four limbs of patient-1 can be explained although there was documented sensory involvement (decreased sensory nerve action potentials in both sural nerves). Deep tendon reflexes should be diminished if the sensory part of the reflex arch is disturbed.

Overall, the elegant study has limitations which challenge the results and their interpretation.

Statement of ethics

Was in accordance if ethical guidelines

Funding sources

No funding was received
Informed consent: was obtained
The study was approved by the institutional review board

Author contribution

Josef Finsterer was responsible for design, literature search, discussion, first draft, critical comments, and final approval,

Declaration of Competing Interest

None

Acknowledgement

none

https://doi.org/10.1016/j.jneuroim.2021.577703
Received 23 August 2021; Accepted 26 August 2021
Available online 28 August 2021

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Josef Finsterer*
Klinik Landstrasse, Messerli Institute, Vienna, Austria

* Corresponding author at: Postfach 20, 1180 Vienna, Austria.
E-mail address: fifigs1@yahoo.de.