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【 LETTERS TO THE EDITOR 】

# SARS-CoV-2 Vaccination- or Infection-related Trigeminal Neuralgia/Radiculitis

**Key words:** SARS-CoV-2 vaccination, trigeminal neuropathy, necrotizing myopathy, side effect, myalgia

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***To the Editor*** I read with interest the article by Tsuzuki et al. concerning a 42-year-old female with a 21-year history of rheumatoid arthritis who had been treated with adalimumab plus methotrexate for the past 11 years (1). She was diagnosed with immune-mediated necrotizing myopathy (IMNM) and left trigeminal neuralgia (TN) with symptoms appearing 12 days after the third BNT162b2 vaccination (1). With prednisolone, two cycles of methylprednisolone, a cycle of intravenous immunoglobulins (IVIG), and tacrolimus, the muscle pain disappeared, and the creatine kinase level normalized, but the left-sided facial pain and numbness persisted (1). The study is impressive, but some points require discussion.

I disagree that the patient had TN. There are several arguments against this diagnosis. First, the patient had persistent numbness on the left side of the face. Permanent numbness is more likely to indicate neuropathy of the sensory fibers of the trigeminal nerve than TN. Second, the patient did not have typical stabbing pain lasting for a few seconds to a maximum of a few minutes, and the pain could not be triggered by light touch, changes in temperature, or voluntary or involuntary movements of the facial muscles. Although not specified, the pain was apparently persistent and non-paroxysmal. Third, cerebral magnetic resonance imaging with contrast showed enhancement of the proximal left trigeminal nerve, suggesting radiculitis. There was also a discrepancy between the authors' statement that the patient had no significant medical, family, or social history and the individual history reporting a 21-year history of rheumatoid arthritis (1). This discrepancy should be resolved.

One limitation of this study is that the patient was not tested for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection by polymerase chain reaction. Lung computed tomography showed ground-glass opacities; therefore, it cannot be ruled out that the IMNM and trigeminal neuropathy were related to SARS-CoV-2 infection rather than SARS-CoV-2 vaccination. SARS-CoV-2 vaccination does not always protect against SARS-CoV-2 infection, particularly in patients with comorbidities or immunosuppression. Another limitation is that the cerebrospinal fluid was not examined for cytokines, chemokines, glial factors, 14-3-3, or neurofilaments. These parameters have been shown to be increased in patients with central nervous system involvement in SARS-CoV-2 infection or complications of SARS-CoV-2 vaccination (2).

Overall, this interesting study has shortcomings that raise doubts about the conclusions and their interpretation. Clarifying these deficiencies could improve the results and bolster the conclusions of the present study. TN should be diagnosed only if the diagnostic criteria for TN are met. SARS-CoV-2 infection can be responsible for TN and IMNM, despite vaccination with three doses of an RNA-based anti-SARS-CoV-2 vaccine.

**The author states that he has no Conflict of Interest (COI).**

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## References

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