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LETTER TO THE EDITOR

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SARS-CoV-2 infection/vaccination associated new or exacerbating immune-mediated disease

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Abstract

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With interest we read the article by Watad et al. about 27 patients developing flares of or new immune-mediated disease (IMD) in association with a SARS-CoV-2 infection or vaccination (1) . Two patients experienced new onset and 18 patients flares of previously diagnosed rheumatic or musculoskeletal disorder (RMD), three patients new-onset non-RMD and four patients flares of previously diagnosed non-EMD (1) . The study is appealing but raises the following comments and concerns.

Concerning the two newly diagnosed patients with myasthenia we should be told if antibodies against the acetyl-choline receptor (AChR) or against the muscle-specific tyrosine kinase (MUSK) were positive or not. Knowing the antibody status in myasthenia is crucial as it determines the choice of treatment.

Supplementary information The online version of this article (10.15520/jmrhs.v4i6.360) contains supplementary material, which is available to authorized users.

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There are several discrepancies which require clarification. Two patients with newly diagnosed myasthenia were reported but in table 1 only a single patient received pyridostigmin, the standard therapy for AchR-positive myasthenia gravis. Twenty-six patients received a treatment but according to table 1 two patients recovered spontaneously. How can recovery be classified as spontaneous if a patient receives a treatment?

Concerning the patient with pericarditis it remains unclear why pericarditis was diagnosed as immune-mediated (1) . There is no mentioning that these patients underwent pericardial puncture. We should be told how infectious pericarditis was excluded.

In addition to the index study, relapse of or new IMD triggered by SARS-CoV-2 has been also reported by others. At least five patients in whom myasthenia newly developed during an infection with SARS-CoV-2 have been reported (2) . Several patients with multiple sclerosis have been reported who experienced a relapse after SARS-CoV-2 vaccination (3) . There are also reports about patients developing acute, disseminated encephalomyelitis following a SARS-CoV-2 vaccination (4) or a SARS-CoV-2 infection (5) . Rarely, SARS-CoV-2 infections were complicated by immune-encephalitis [5]. Several patients with polyneuritis cranialis following an infection with SARS-CoV-2 have been published. There are also patients who developed Tapia's syndrome or Kawasaki-like syndrome after an infection with SARS-CoV-2 (6) .

Personally, we came accross several patients with flares of or newly onset IMD in the course of a SARS-CoV-2 infection or after a SARS-CoV-2 vaccination. The first patient is a 32yo male with a history of Guillain-Barre syndrome (GBS) 14y before, who experienced a relapse of the GBS 8 days after the first dose of a vector-based SARS-CoV-2 vaccine (7) . A second patient, a 69yo female, experienced a first GBS 15 days after experiencing a mild SARS-CoV-2 infection despite having been vaccinated with the first dose of a vector-based SARS-CoV-2 vaccine. A third patient, a 27 female, experienced a relapse of relapsing-remitting multiple sclerosis four weeks after onset of mild COVID-19. Recently, we came into contact with a patient who developed ptosis and double vision four weeks after the second dose of an mRNA-based SARS-CoV-2 vaccine, suggesting MG. He is currently undergoing work-up for MG.

Overall, the study has several limitations which challenge the results and their interpretation. Inconsistencies need to be eliminated, antibodies in myasthenia patients need to be specified, and the discussion about previously reported IMD following a SARS-CoV-2 infection or vaccination need to be expanded. Rarely, SARS-CoV-2 infection/vaccination can be followed by mild to severe immune-neurological disease.

Declarations

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