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Letter to the Editor

Guillain-Barre Syndrome after SARS-CoV-2 Vaccination with the mRNA-1273 Vaccine is not Uncommon

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Letter to the Editor

We were interested to read the article by Aldakkour *et al*. about a 70-year-old woman with Guillain-Barre syndrome (GBS) two weeks after the first vaccination with the mRNA-1273 anti-SARS-CoV-2 vaccine (Spikevax®) [1]. In addition to quadruparesis, the patient showed dissociation cyto-albuminique on examination of the cerebrospinal fluid (CSF) [1]. Intravenous immunoglobulins (IVIGs) led to a partial recovery after three weeks of hospitalization [1]. The study is noteworthy, but several points should be discussed.

First, we disagree with the claim that the case described by Aldakkour is the first case of GBS after administration of the Moderna 1273 mRNA vaccine, as claimed [1]. In 2022, Hwang and Bong reported a 47-year-old man who developed fever, rash and generalized weakness one day after vaccination with the Moderna mRNA-1273 vaccine [2]. Three weeks later, muscle strength began to deteriorate to the point where standing and walking became impossible [2]. The patient was diagnosed with GBS and received IVIGs [2]. After six months of rehabilitation, he was able to work and walk independently again. An increased risk of GBS after vaccination with mRNA-1273 has also been reported in other studies [3].

The second point relates to the discrepancy between the description of the CSF in the case report as normal with the exception of an elevated CSF protein and Table 1 of the article, which states that the CSF was xantochromic [1]. Xantochromia is not a normal CSF finding and indicates hemorrhage into the CSF due to subarachnoid hemorrhage, hematoma, tuberculous meningitis, or elevated serum bilirubin [4]. Were these diseases adequately excluded as the cause of the xanthochromia in the index case? Was there another explanation for the xanthochromia?

The third point relates to the discrepancy between the description of the patient's symptoms, who reported numbness as well as weakness, and the clinical examination, which did not reveal any sensory deficits. How was the sensory testing performed during the clinical examination? Was the patient subjected to quantitative sensory testing? Were the sensory nerve conduction studies (NCS) normal or abnormal?

The fourth point is that the neurologist consulted did not order NCS [1]. Since GBS is only an umbrella term for several different subtypes and these subtypes are not only differentiated by the clinical picture but also by electrophysiological examinations, it would have been mandatory to perform NCS as well. NCS can be used to differentiate between demyelinating and axonal GBS in the form of acute inflammatory demyelinating polyneuropathy (AIDP) and acute motor (sensory) axonal neuropathy (AMAN/AMSAN). The distinction between these subtypes of GBS is crucial as the treatment and outcomes of the two forms can be different [5].

The fifth point is that the patient had macrocytic anemia in addition to GBS and was recommended to undergo investigation for the causes of macrocytic anemia, particularly myelodysplastic syndrome [1]. Was myelodysplastic syndrome confirmed on follow-up, or were there other causes of macrocytic anemia, such as chronic alcoholism, vitamin B12 deficiency, liver disease, or hypothyroidism?

In summary, GBS has been repeatedly reported following vaccination with the mRNA-1273 vaccine. Patients with GBS should undergo NCS and CSF findings should be interpreted carefully.

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