Does celiac neuropathy favour Guillain-Barre syndrome following immunisation with the CoronaVac vaccine?

Letter to the Editor,

We read with interest the article by Wimmer del Solar et al. about a 50 years old female with a history of celiac disease, who developed flaccid quadriparesis two days after having received the first dose of the CoronaVac vaccine (Sinovac Life Science, China)[1]. Gullain-Barre syndrome (GBS) subtype acute, motor and sensory axonal neuropathy (AMSAN) was diagnosed and intravenous immunoglobulins were begun, leading to incomplete recovery[1]. It was concluded that the index patient is the first one who developed GBS following a CoronaVac vaccination[1]. The study is promising but raises concerns that should be discussed.

We disagree with the statement that the index case is the first developing GBS after application of the CoronaVac vaccine[1]. The first patient developing GBS (subtype acute, motor axonal neuropathy (AMAN)) after application of the CoronaVac vaccine has been reported by Tutar et al.[2]. They reported a 76 years old male who developed progressive quadriparesis two weeks after having received the second dose of the vaccine[2]. There is also the report of a 53 years old male who experienced GBS (subtype Miller-Fisher syndrome (MFS)) eight days after the first dose of the CoronaVac vaccine[3]. In a retrospective epidemiological surveillance study, 10 patients with GBS following vaccination with the CoronaVac vaccine were reported[4]. Nerve conduction studies (NCSs) performed in six of these patients revealed acute, inflammatory demyelinating polyneuropthy (AIDP) in two, AMAN in 1 and AMSAN in three patients[4].

Celiac disease can be complicated by affection of the peripheral nerves leading to polyneuropathy[5]. We should be told if polyneuropathy was present in the index patient already prior to the development of SARS-CoV-2 related GBS. There are indications that patients with pre-existing neuropathy carry an increased risk of experiencing immune neuropathy, such as GBS, than those without pre-existing neuropathy.

Surprisingly, cerebrospinal fluid investigations were normal in the index patient. According to the Brighton criteria, one of the key criteria for diagnosing GBS is the dissociation cyto-albuminique[1]. We should be told if the patient underwent a second lumbar punctue during follow-up and if CSF protein was elevated this time.

Overall, the interesting study has limitations that call the results and their interpretation into question. Clarifying these weaknesses would strengthen the conclusions and could improve the study. The index patient is definitively not the first one developing GBS after CoronaVac. Considering that the patient had celiac disease associated neuropathy already before the vaccination, it is conceivable that vaccination did not trigger GBS but rather worsened a per-existing condition.

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References

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