



# SARS-COV-2 AND ANTI-COVID VACCINES TRIGGER GUILLAIN-BARRÉ SYNDROME

We read with interest the review article by Galnares-Olalde et al., about the Mexican Guillain-Barré syndrome (GBS) and related to SARS-CoV-2 and anti-SARS-CoV-2 vaccines<sup>1</sup>. It was concluded that a clear link between SARS-CoV-2, anti-SARS-CoV-2 vaccines, and GBS has yet to be established<sup>1</sup>. The study is appealing but raises the following concerns that need to be discussed.

We do not agree with the statement in the introduction that GBS is generally associated with axonal damage<sup>1</sup>. In Europe and North America, GBS is a demyelinating disorder, and the most common subtype is acute, inflammatory, and demyelinating polyneuropathy<sup>2</sup>.

We also do not agree with the statement in the abstract that there is no causal relation between

SARS-CoV-2 and GBS<sup>1</sup>. There are several arguments for a causal relation between SARS-CoV-2 and GBS. First, most of the >400 reported cases, as per the end of June 2021, of SARS-CoV-2-associated GBS developed time-linked to the infection, usually within 4 weeks after onset of the infection. Second, there is an upregulation of cytokines and chemokines in the cerebrospinal fluid resulting in a pattern of elevated interleukin-6 (IL-6), IL-8, and TNF-alpha<sup>3</sup>. Third, there are several other immunological disorders triggered by SARS-CoV-2 (e.g., immune encephalitis, multiple sclerosis, neuromyelitis optica, and MIS-C). Fourth, SARS-CoV-2 infection can cause reversible conduction block<sup>4</sup>. Missing in Figure 1 is the pure dysautonomic type of GBS, which has been recently reported in a 79-year-old male who developed autonomic dysfunction 10d after onset of COVID-19<sup>5</sup>.

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