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Letter to the Editor

A Nationwide Comparison of GBS Pre-Pandemic and Pandemic Incidence Requires Uniform Diagnostic, Coding and Analysis Criteria

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Letter to the Editor

We read with great interest the article by Suichi *et al*. on a cross-sectional study that compared the nationwide incidence of Guillain-Barré syndrome (GBS) in Japan before (2017–2019) and during (2020–2022) the COVID-19 pandemic using questionnaires [1]. The study found that during the pandemic, the incidence of newly diagnosed GBS cases decreased, that the relative risk of developing GBS decreased by 23%, the age of patients increased, the proportion of cases without a prior infection rose, the prevalence of AIDP increased, the number of Campylobacter-associated cases decreased, and the time to reach the nadir lengthened [1]. The findings were attributed to reduced exposure to conventional infectious triggers during the pandemic [1]. The study is noteworthy, but some points warrant further discussion.

First, the questionnaires were sent only to neurology departments, not to out-patient private-practice neurologists [1]. Since up to a quarter of GBS cases have a mild course, allowing patients to continue walking independently [2], it is conceivable that not all GBS cases were actually admitted to a hospital during the pandemic. This is all the more likely given that hospital admissions were extremely restrictive during the pandemic, and only very severe cases were admitted. It is also conceivable that GBS cases during the pandemic generally had a milder course than before the pandemic due to a changed spectrum of triggers.

The second point is that only hospitals with neurology or paediatric departments were included in the survey [1]. However, since GBS cases are not treated exclusively in neurology or paediatric wards - especially when they require monitoring or intensive care - it is highly likely that many GBS cases were not captured using this method. In particular, during the pandemic, separate COVID wards were frequently established to treat exclusively COVID-positive patients and thus prevent the spread of the virus within hospitals. To truly capture all cases, it would have been necessary to include all GBS cases from all hospital wards, regardless of specialty, as well as all cases recorded in outpatient facilities. This is the only way to calculate a reasonably reliable national incidence rate.

The third point concerns the method used to code and diagnose GBS in the participating hospitals. What criteria were used to diagnose GBS? Were nerve conduction velocity tests and cerebrospinal fluid examinations actually performed on all included patients? Was the diagnostic method identical in all participating hospitals, and was case coding carried out in the same way in all participating hospitals?

The fourth point is that GBS can be triggered not only by infections but also by vaccinations, immunological comorbidities, sepsis, trauma, and surgery [3]. Furthermore, the study only included infections with Campylobacter jejuni, but not infections with other pathogens that are also known to trigger GBS. These include Haemophilus influenzae, Mycoplasma pneumoniae, E. coli, VZV, HIV, Zika, EBV, influenza, SARS-CoV-2, HAV, HBV, HCV, HDV, HEV, CMV, rubella, West Nile virus, Japanese nephritis, and chikungunya [4]. Therefore, rather than generally recording previous respiratory, gastrointestinal, or other infections, the specific pathogens should be identified.

The fifth point is that it is unclear why cases of Miller-Fisher syndrome (MFS) were included in the primary survey but excluded from the secondary survey [1]. If MFS cases were included in the primary survey but not in the secondary survey, then there are numerous missing values. How were these missing data handled? MFS is a classic GBS subtype and should be included in the analysis. Regarding the subtypes (AIDP, AMAN, AMSAN, MFS, CPB, BBE, single/multiple cranial nerves,

purely sensory, purely autonomic), we should also know how GBS was defined and whether all subtypes were actually included in the analyses.

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