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Letter to the Editor

Primary and Secondary Endpoints of a Direct Tracheostomy in Guillain-Baree Syndrome Depend on Numerous Influencing Factors

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Letter to the Editor

We read with interest the article by Thille *et al*., which presents a retrospective study on the impact of direct tracheostomy (performed without a prior weaning attempt) on the clinical course of mechanically ventilated patients with Guillain-Barré syndrome (GBS) (Group 1). These patients were compared with those who underwent a "standard weaning process" (SWP)—defined as including at least one spontaneous breathing trial (SBT) or an extubation attempt (Group 2) [1]. One month after admission to the intensive care unit, patients in Group 1 were less likely to be both alive and free from mechanical ventilation compared to those in Group 2 [1]. A standard weaning process proved more effective than a direct tracheostomy in reducing the risk of continued mechanical ventilation at the one-month mark [1]. Furthermore, 28 days post-tracheostomy, patients in Group 1 were less likely to be alive and off mechanical ventilation than those in Group 2 [1]. While this report is noteworthy, several aspects warrant further discussion.

A primary concern is the retrospective study design [1]. Retrospective designs carry various inherent limitations, including lower data quality, missing data, an inability to establish causality (only associations can be identified), susceptibility to recall and selection bias, challenges in controlling for confounding factors, and generally lower evidentiary strength compared to prospective studies [2]. Due to these shortcomings, the validity and clinical significance of retrospective studies are limited. Therefore, its results and their interpretation should be viewed with caution.

A second point is that the criteria used to diagnose GBS were not specified [1]. For instance, GBS can be diagnosed according to the 2023 EAN/PNS guidelines, the Brighton criteria (last updated in 2000), or the Asbury and Cornblath criteria (from 1990). Each of these sets of criteria has its own specific strengths and weaknesses. As the index study was a multicenter study, it must be clarified whether all participating centers actually employed the same diagnostic criteria. Since the results depend significantly on the diagnostic criteria used, it is important to know whether these were defined consistently before the study began and whether patients who did not meet the chosen diagnostic criteria were excluded from the study. Since data were analysed over a 10-year period, it is conceivable that diagnostic procedures may have evolved during this time.

A third point is that the specific subtypes of GBS included were not further defined [1]. Although Table 1 indicates that 118 of the 211 patients in Group 1 presented with an "axonal neuropathy," this does not necessarily imply that the remaining patients had the demyelinating subtype (AIDP). Identifying the electrophysiological GBS subtype is crucial, as both the response to treatment and the clinical course can vary significantly between the two forms [3]. Did the remaining 93 patients in Group 1 actually have AIDP? It would be particularly relevant to know whether the patients with the axonal subtype had acute motor axonal neuropathy (AMAN) or acute motor and sensory axonal neuropathy (AMSAN). In patients with AMSAN, the autonomic nervous system is frequently involved, which can substantially influence the response to treatment (including outcomes related to tracheostomy and extubation) [4]. Regarding the electrophysiological methodology, it should be noted that, contrary to what is stated in Table 1. The procedure used is a nerve conduction study, rather than an electromyogram (EMG).

A fourth point is that comorbidities and concomitant medications were not included in the analysis [1]. Patients with pre-existing nerve damage generally experience a less favourable clinical course compared to patients without pre-existing neuropathy. It is therefore important to know how many of the patients included in both groups had already been diagnosed with a neuropathy prior to the onset of GBS.

A fifth point is that it was not reported whether there were any differences in the primary and secondary endpoints between treatment with IVIG and plasma exchange. Although IVIG and plasmapheresis are equally effective [5], the administration of IVIG is simpler and has a more favourable safety profile compared to plasma exchange [5].

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