Authors' Reply to: "Affection of Cranial Nerves in COVID-19 Patients Should Prompt Suspicion of Guillain-Barré Syndrome"

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Dear Editor,

We thank Drs Finsterer and Scorza [1] for their interesting comments on our article on the subject of lower cranial palsies in the COVID-19 pandemic. As mentioned in our original paper, we agree that a multifactorial etiology to these lower cranial nerve palsies is possible.

With regard to Guillain-Barré syndrome (GBS), such a diagnosis was indeed considered in some patients in our series. We specified in our paper that we observed an undeniable increase in GBS cases in our region during the first wave of the pandemic [2]. As was the case for our Italian colleagues' patients, our patients with GBS all had negative SARS-CoV-2 nasopharyngeal swabs and negative IgM and IgG SARS-CoV-2 serology [3].

Additionally, as specified in the article, none of the patients developed neurological signs suggestive of acute neuropathy (such as hyporeflexia and sensitive disorders). The muscular limb weakness that was observed in some of our patients was proximal. These two factors, in combination with the patients' undernutrition, are more suggestive of a critical illness myopathy, than an acute neuropathy such as GBS.

As was the case around the world, the pandemic had a significant impact on our hospital, not least because our

region was particularly affected during the first wave. In this somewhat chaotic context, we were unfortunately unable to perform complementary exams such as nerve conduction studies or evoked potentials. Because the patients were receiving anticoagulant treatment, it was also not possible to conduct studies of the cerebral spinal fluid. Some patients underwent a cerebral MRI, but no abnormalities were found.

The other cranial nerves (I to VI) were of course examined. The examinations revealed no abnormalities, except the 3 patients with ageusia/anosmia, reported in Table 1 [2].

With regard to the patients' progress in terms of lower cranial palsies, 2/10 of our patients had not completely recovered at 1 month. However, at 6 months, they had completely recovered. As for the MRC-SS scores, the 4 patients who had not significantly improved at 1 month had completely recovered at 6 months, without having received any particular treatment (neither intravenous immunoglobulin nor plasmapheresis).

Although we cannot rule out the possibility of a multifactorial etiology, we believe that the predominant factor for the patients in our series was the compressive mechanism. This is based on the arguments put forward

in our paper, i.e., rapidity of spontaneous recovery, normal I–VI cranial nerve function, use of intensive prone position ventilation in all patients, correlation with facial sores, and the fact that this effect was only observed in male patients.

Moreover, during the second wave of the pandemic at the end of 2020, the number of patients admitted to the p-ICU and the number of GBS cases was approximately the same as during the first wave. However, we did not observe any cases of such lower cranial nerve palsy. Notably, as opposed to the first wave, during the second wave, we no longer used prone position ventilation, instead favoring new, less aggressive ventilation protocols.

Conflict of Interest Statement

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Author Contributions

Pierre Decavel: acquisition of data – writing. Olympe Nahmias: critical review of the manuscript. Carine Petit: critical review of the manuscript. Laurent Tatu: acquisition of data – writing.

References

- 1 Finsterer J, Scorza FA. Affection of cranial nerves in COVID-19 patients should prompt suspicion of Guillain-Barre syndrome. *Eur Neurol*. 2022. Jan 21;1-2. doi: 10.1159/000521657.
- 2 Decavel P, Nahmias O, Petit C, Tatu L. Lower cranial nerve palsies in the COVID-19 pandemic: a 10-case series of intensive care unit patients. *Eur Neurol*. 2021 Sep 23:1–4.
- 3 Gigli GL, Bax F, Marini A, Pellitteri G, Scalise A, Surcinelli A, et al. Guillain-Barré syndrome in the COVID-19 era: just an occasional cluster? *J Neurol*. 2021;268(4):1195–7.