Neurological Sciences (2022) 43:5805–5806
https://doi.org/10.1007/s10072-022-06318-y

COVID-19

Letter response to "The Janus faces of SARS-COV-2 infection in myasthenia gravis and myasthenic crisis"

Paulo Ribeiro Nóbrega[1] · Pedro Helder de Oliveira Junior[1] · Hermany Capistrano de Freitas[2] · José Artur Costa D'almeida[2] · Cleonísio Leite Rodrigues[2]

Received: 14 July 2022 / Accepted: 1 August 2022 / Published online: 8 August 2022

We read with interest the letter by Giuliana Galassi [1] referring to our article "Myasthenia gravis exacerbation and myasthenic crisis associated with COVID-19: case series and literature review" [2]. We believe their comments were very relevant and merit a point-by-point analysis and clarification.

First, the author states that none of the patients in our paper met diagnostic criteria for myasthenic crisis based on pre-admission Myasthenia Gravis Foundation of America severity score (MGFA), but we would like to clarify that pre-admission MGFA was considered 1 month before admission as an assessment of "baseline" MGFA. Indeed, admission MGFA was not included in our table, but we have stated that all patients had worsening of MGFA or worsening of weakness requiring mechanical ventilation.

We agree that it is sometimes difficult to differentiate respiratory failure due to pulmonary complications of COVID-19 from respiratory failure due to myasthenic crisis (MC). We have tried to used hypercapnia without hypoxemia or presenting before hypoxemia as a surrogate marker for muscle weakness being the primary cause of respiratory failure (hypercapnic respiratory failure), but we understand this approach has many limitations and may not always be accurate. In the paper by Murthy et al. [3], cited by the authors, none of the patients considered to have respiratory failure due to COVID pulmonary complications without MC developed new-onset or worsening weakness during the hospital course to support a myasthenic worsening. Conversely, all our patients had worsening of weakness preceding or at the time of respiratory failure, which led us to classify them as having MC.

Second, we agree that lung involvement on CT-scans not always correlates with disease severity. We believe that in all patients, including those with lung involvement > 50%, neurological worsening is multifactorial, and may be associated with cytokine release, drugs used to treat clinical conditions, such as antibiotics, that may worsen MG, neuromuscular blockers, sepsis, among other factors. Corticosteroids probably have a protective effect on patients with severe COVID and hypoxemia or need for mechanical ventilation, but we believe our sample is too small to draw specific conclusions regarding these patients with MG exacerbations.

Third, we would like to point out that none of our patients took tocilizumab due to unavailability of the drug.

In conclusion, we agree with the authors of the letter that treatments like IVIG and PLEX should be individualized and that ongoing experiences in the field will be helpful to set future directions for treatment. We also believe that discussions such as this one and shared experiences may help to clarify some issues regarding the care of myasthenic patients with COVID.

Declarations

Ethical approval and Informed consent The study was approved by the local ethics committee under the number 4881736. Informed consent was waived because of the retrospective observational nature of the study.

Conflict of interest None.

✉ Paulo Ribeiro Nóbrega
paulo_r_med@yahoo.com.br

[1] Division of Neurology, Department of Clinical Medicine, Federal University of Ceará, Rua Capitão Francisco Pedro, 1290, Rodolfo Teófilo, Fortaleza, Ceara 60430, Brazil

[2] Hospital Geral de Fortaleza, Fortaleza, Brazil

References

1. Galassi G (2022) The Janus faces of SARS-COV-2 infection in myasthenia gravis and myasthenic crisis. Neurol Sci. https://doi.org/10.1007/s10072-022-06206-5
2. Rodrigues CL, de Freitas HC, Lima PRO, de Oliveira Junior PH, Fernandes JMA, D'Almeida JAC, Nóbrega PR (2022) Myasthenia gravis exacerbation and myasthenic crisis associated with COVID-19: case series and literature review. Neurol Sci 43(4):2271–2276. https://doi.org/10.1007/s10072-021-05823-w
3. Murthy JMK, Gutta AK, Yerasu MR, Boorgu SK, Osman S, Jaiswal SK, Pidaparthi L, Gudavalli BP (2021) COVID-19 in patients with myasthenia gravis: mechanisms of respiratory failure. Neurol India 69(6):1772–1776. https://doi.org/10.4103/0028-3886.333460