



LETTER TO THE EDITOR

Response to 'Presentation and pathophysiology of neuro-COVID'

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Abstract

Letter to the Editor in response to Finsterer J, Scorza FA, Scorza CA. Presentation and pathophysiology of neuro-COVID. *Drugs Context*. 2021;10:2021-6-5. <https://doi.org/10.7573/dic.2021-6-5>

Keywords: COVID-19, neurological complications, SARS-CoV-2.

Citation

Orsucci D, Vista M. Response to 'Presentation and pathophysiology of neuro-COVID'. *Drugs Context*. 2021;10:2021-7-4. <https://doi.org/10.7573/dic.2021-7-4>

In June 2020, we published an invited review entitled 'Neurological features of COVID-19 and their treatment' in *Drugs in Context*.¹ This article did not aim to describe the complications of ICU treatment and/or of the pharmacological therapies nor did it focus on the cardiac complications of COVID-19.

We agree that, since then, there has been an extraordinary advancement in our common knowledge of the neurological complications of COVID-19. However, there is still the need of a better understanding of the mechanisms of these complications. For instance, a recent study from Tuscany confirmed that increased levels of the muscular enzyme creatine kinase (CK) acted as an independent predictor for a more severe outcome of COVID-19.² However, hyperCKaemia was generally transient, returning to normal during hospitalization in most patients. Therefore, transient muscular dysfunction is common during the course of COVID-19 but the precise pathomechanisms of this dysfunction are still unknown.²

In our early review,¹ we concluded that direct infection of the central nervous system is uncertain or very rare and

that parainfectious complications (such as inflammatory neuropathies) are rare if compared with delirium and septic encephalopathy (which are common in severely ill patients) and with headache and smell dysfunction (typical of the mild COVID-19 cases).¹

Even if our review was only based on the very first reports on this new viral disease, we believe that our conclusions were fundamentally correct. For instance, even if more than 100 patients worldwide were reported with SARS-CoV-2-associated acute inflammatory demyelinating polyneuropathy (Guillain–Barre syndrome), it must be noted that only a minimal fraction of the subjects infected by this 'new' coronavirus develop this complication. For example, our province (Lucca) is one of the most hit in Tuscany (central Italy), with 6496 confirmed COVID-19 cases per 100,000 inhabitants up to July 9, 2021 (www.ars.toscana.it), and our unit is the reference Neurological Unit for an area comprising ~228,000 persons; however, we are aware of only one patient who developed Guillain–Barre syndrome during or after SARS-CoV-2 infection in our area.

Contributions: All named authors meet the International Committee of Medical Journal Editors (ICMJE) criteria for authorship for this article, take responsibility for the integrity of the work as a whole, and have given their approval for this version to be published.

Disclosure and potential conflicts of interest: The authors declare that they have no conflicts of interest relevant to this manuscript. The International Committee of Medical Journal Editors (ICMJE) Potential Conflicts of Interests form for the authors is available for download at: <https://www.drugsincontext.com/wp-content/uploads/2021/07/dic.2021-7-4-COI.pdf>

Acknowledgements: None.

Funding declaration: There was no funding associated with the preparation of this article.

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Article URL: <https://www.drugsincontext.com/response-to-presentation-and-pathophysiology-of-neuro-covid>

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Provenance: Invited; internally peer reviewed.

Submitted: 13 July 2021; **Accepted:** 14 July 2021; **Publication date:** 12 August 2021.

Drugs in Context is published by BioExcel Publishing Ltd. Registered office: Plaza Building, Lee High Road, London, England, SE13 5PT.

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