

Reply letter to “COVID-19 and Recurrent Status Epilepticus”

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To the Editor,

We thank dr. Rjittika Mungmunpantipantip and prof. Viroj Wiwanitkit for the comments on our article entitled “Recurrent Status Epilepticus and SARS-CoV-2 infection: the perfect storm” (1).

We agree that the clinical association between Status Epilepticus (SE) and SARS-CoV-2 infection is intriguing.

In a previous article, we reviewed the possible pathogenetic mechanisms of Central and Peripheral Nervous System complications induced by SARS-CoV-2. Direct viral invasion, micro thrombosis, hypoxemia, systemic cytokine storm and other factors strictly related with critically ill-patients have been described (2).

Robust clinical and experimental evidence highlights that the activation of inflammatory cascade during SE may play an important role in sustaining or relapsing seizures and detrimental neurological outcome (3).

Indeed, increased cytokine levels have been reported in single cases or in case series describing the occurrence of SE as a consequence of Covid-19 (4).

Furthermore, inflammation may induce a pro-coagulant state, which, together with blood hyperviscosity and coagulation dysfunction are pathogenetic mechanisms for cerebro-vascular COVID-19 related complication. However, we believe that, considering all the pathological pathways involved and metabolic derangements occurring during SE, it is hard to say which has the greatest influence in determining and maintaining the SE itself.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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