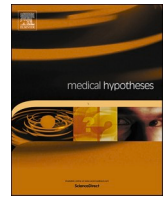




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## Correspondence

**Methylene blue: Subduing the post COVID-19 blues!**

## ARTICLE INFO

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Dear Editor,

We read with great interest the recent articles featured in the *Journal* elaborating a therapeutic role of methylene blue (MB) in coronavirus disease 2019 (COVID-19) [1,2]. However, the elaboration remains incomplete in the absence of discussion on the possibility of ameliorating the post COVID-19 blues (neurocognitive impairment) with the use of MB in this cohort peculiarly predisposed to neuroinflammation. The aforementioned becomes particularly relevant amidst an increasing recognition of cognitive and functional decline in the COVID-19 survivors [3].

There is an ever evolving comprehension of the pivotal role of mitochondrial dysfunction in neurodegenerative disorders characterized by neuroinflammation and neuronal death perpetuated in turn by the accompanying oxidative stress, endotheliitis and metabolic disturbances [4,5]. While the former can contribute significantly to the COVID-19 associated neurocognitive impairment [3,5], the proposition of improving brain mitochondrial respiration for neuroprotection and cognitive enhancement is doubtlessly pertinent even in the COVID-19 setting [6].

In this context, the mitochondrial protective effects of MB as the basis of the attributable neuroprotection in diverse clinical settings such as ischemic stroke, neurodegenerative diseases and chemotherapy-induced encephalopathy [7–9], captivate attention and enterprise a plausible role of the drug in attenuating post COVID-19 cognitive and functional decline. Moreover, literature also supports the role of MB as a redox-mediator in the electron-transport chain being at the cornerstone of the subsequent amelioration of the altered neurometabolomics [10]. A very recent description of a reduced incidence of postoperative cognitive disorders in the elderly patients undergoing major non-cardiac surgery, who received an intraoperative 2 mg/Kg MB infusion compared to the control group receiving saline in an open-label randomised controlled clinical trial by Deng et al [10], substantiates the matter furthermore.

The discussion strengthens the importance of highlighting the possible therapeutic options like MB with an augmented focus on the long-term outcomes which itself as in the case of neurocognitive impairment can potentially pose a challenging post-pandemic situation [3].

**Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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