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A Letter in Reply: COVID-19 Induced New-onset Psychosis

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Dear Editor,

We appreciate the comments from Al-Mendalawi[1] on our case report,[2] and on the merit of exploring cytokine and immunosuppression in the context of psychosis. In our case report, we overlooked the literature suggesting the potential role of cytokine and immunosuppression in the development of psychosis despite emerging evidence that cytokine profile might be critically associated with COVID-19 and its severity.[3] In line with Al-Mendalawi's assertion, infection by SARS-CoV-2 virus has been widely established to trigger activation of central and peripheral cytokine which may result in cytokine storms and weakening of the blood-brain barrier.[3] Such pathological processes compromise the integrity of the brain circuits leading to consequences such as the onset of obscured consciousness and conditions resembling psychosis.[4] Along with this, the occurrence of overt neurological events as a result of COVID-19 has been observed including triggering of acute and ischemic strokes. The hallmarks of encephalopathy or encephalitis via brain scans have been documented.[5,6]

It remains to be seen whether the observed psychosis results from a specific degradation of the brain circuits or is part of a global breakdown of the brain processes. More studies are needed to examine how the cytokine storm interferes with the molecular activity at synapses and other brain circuitries to lead to psychosis. If the hypothesis of the link between COVID-19 and neuroimmunology withstands further scrutiny, then the potential of bringing psychoneuroimmunology into our quest to understand psychosis will potentially open a new chapter in our understanding of psychiatric disorders. We are grateful to Al-Mendalawi for bringing this matter to our attention.

REFERENCES

1. Al-Mendalawi MD. Letter to the editor of COVID-19 induced new-onset psychosis: A possible correlate with human leukocyte antigens. Oman Med J 2022 July;37(4):e395.
2. Al-Busaidi S, Al Huseini S, Al-Shehhi R, Zishan AA, Moghadas M, Al-Adawi S. COVID-19 induced new-onset psychosis: a case report from Oman. Oman Med J 2021 Sep;36(5):e303.
3. Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ; HLH Across Speciality Collaboration, UK. COVID-19: consider cytokine storm syndromes and immunosuppression. Lancet 2020 Mar;395(10229):1033-1034.
4. Troyer EA, Kohn JN, Hong S. Are we facing a crashing wave of neuropsychiatric sequelae of COVID-19? Neuropsychiatric symptoms and potential immunologic mechanisms. Brain Behav Immun 2020 Jul;87:34-39.
5. Mao L, Jin H, Wang M, Hu Y, Chen S, He Q, et al. Neurologic manifestations of hospitalized patients with coronavirus disease 2019 in Wuhan, China. JAMA Neurol 2020 Jun;77(6):683-690.
6. Avula A, Nalleballe K, Narula N, Sapozhnikov S, Dandu V, Toom S, et al. COVID-19 presenting as stroke. Brain Behav Immun 2020 Jul;87:115-119.

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