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COVID-19-induced New-onset Psychosis: A Possible Correlate with Human Leukocyte Antigens

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Dear Editor,

I have two comments on the interesting case report by Al-Busaidi et al,[1] published in the September 2021 issue of the *Oman Medical Journal*.

The authors described a case of a 46-year-old Omani patient with COVID-19-related psychosis.[1] They addressed possible contributory factors, namely the relationship between brain circuitry and infection, the inadvertent iatrogenic effects of medications utilized in managing COVID-19, and diathesis-stress correlated with the catastrophe of the pandemic. We presume that the following point is plausibly contributory.

Psychosis is a neurodevelopmental condition with a genetic predisposition. The major histocompatibility complex, one of the genetically diverse regions of the genome, encodes hundreds of genes essential to immunity and susceptibility to various disorders such as psychosis spectrum disorders. Indeed, specific human leukocyte antigen (HLA) variants are linked to the development of psychosis.[2–4] It is plausible that COVID-19 during the critical period of the infection might be particularly detrimental and directly interacts through unrecognized pathophysiological mechanisms with specific HLA variants. Thus, it increases the vulnerability of genetically susceptible individuals to psychosis. Regrettably, the authors did not consider defining the HLA variant of the studied patient. Therefore, in-depth studies are needed to verify the possible role of HLA genes in emerging COVID-19-induced psychosis.

The case in question could truly expand the spectrum of the COVID-19-induced neuropsychiatric disorders reported in the literature.[5]

Numerous risk and extrinsic factors contribute to the emergence of the COVID-19-related neuropsychiatric conditions. The risk factors included younger age, female gender, constrained resources, and antecedent psychiatric or physical illnesses. The extrinsic factors involved high infection and mortality rates, long lockdowns, low confidence in the government, and ineffective measures against social and economic aftermaths.[5] It is expected that COVID-19-induced neuropsychiatric cases, including psychosis, will rise globally due to the continuing COVID-19 pandemic secondary to defective vaccination programs against COVID-19 in many parts of the world and the emergence of new variants of the virus. Therefore, we believe that the COVID-19 neuropsychiatric health pandemic will be the next faced. Therefore, it is crucial to implement effective psychiatric surveillance and care and preventive measures to mitigate factors correlated with COVID-19-induced neuropsychiatric conditions at the national level.

REFERENCES

1. 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.
2. Sorokina TT, Evsegneev RA, Levin VI, Semenov GV. [Features of the distribution of HLA-antigens among patients with endogenous psychoses]. Zh Nevropatol Psikhiatr Im S S Korsakova 1987;87(6):885-888.
3. Dvoráková M, Májský A, Zvolský P. [Incidence of HLA-DR antigens in endogenous psychoses]. Cesk Psychiatr 1989 Aug;85(4):217-222.
4. Corvin A, Morris DW. Genome-wide association studies: findings at the major histocompatibility complex locus in psychosis. Biol Psychiatry 2014 Feb;75(4):276-283.
5. Rittmannsberger H, Barth M, Malik P, Yazdi K. [Neuropsychiatric aspects of COVID-19 - A narrative overview]. Fortschr Neurol Psychiatr 2022 Mar;90(3):108-120.

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