First-Episode Mania Post–COVID Pneumonitis With No Prior Psychiatric History

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We wish to report an uncommon clinical observation of first-episode mania following coronavirus disease 2019 (COVID-19) pneumonitis, isolation, and vaccination in a patient with no prior psychiatric history.

Case Report

A 22-year-old man presented to Northern Hospital Epping, Victoria, Australia, on November 5, 2021, with a 3-day history of mania including elevated mood, pressured speech, flight of ideas, increased irritability, excessive spending, decreased need for sleep, decreased appetite, and impulsive suicidal ideations with no plan or intent. There was no significant past medical, psychiatric, or family history of mental health issues. Substance use history of cannabis, ketamine, and cocaine was noted, with the last use occurring 1 year prior.

Prior to the admission, the patient was recovering from COVID-19 pneumonitis following symptomatic onset on October 11, 2021 (day 0). Symptoms included fever, insomnia, and small joint arthralgia of bilateral hands, but there was no cough, sore throat, or coryzal symptoms. He received the first dose of Pfizer-Comirnaty vaccine on day 2. On day 7, he was confirmed positive for COVID-19 via respiratory polymerase chain reaction test. A chest x-ray performed on day 15 indicated ill-defined patchy airspace shadowing throughout both lungs, which confirmed the diagnosis of pneumonitis. The patient completed an isolation period at home from day 7 to day 21, prior to clearance by the Victoria Health Authority. Initial manic symptoms started 2 days later (day 23), and the patient received his second dose of Pfizer-Comirnaty vaccine on day 24. The patient was admitted to the hospital's psychiatric inpatient unit on day 25.

On admission, a full panel of tests and investigations were completed including full blood examination, urea electrolytes and creatinine, calcium, magnesium and phosphate levels, liver function test, thyroid function test, C-reactive protein (CRP), troponin, glycated hemoglobin, lipid studies, pancreatic enzyme studies, urine analysis, non–contrast computed tomography of the brain, and electrocardiogram. Most of the results were unremarkable except for mildly raised CRP (27 mg/L), aspartate aminotransferase (44 U/L), and alanine aminotransferase (64 U/L), which indicated the recovery phase of COVID infection, as they were decreased from the tests conducted 9 days previously (123 mg/L, 158 U/L, and 174 U/L, respectively). A repeat chest x-ray was performed on day 30, indicating underlying post–COVID-19 fibrotic change.

Upon psychiatric admission, the patient was started on olanzapine 10 mg twice/day with diazepam as needed, to which he responded well. He was discharged to the community mental health service for ongoing treatment on day 36. At discharge, no racing thoughts or obvious pressured speech were reported or observed. His sleep improved significantly with an average of 8 to 9 hours of solid sleep every night. Persistent elevation in mood was noted with grandiose religious beliefs but was less intrusive than earlier in his admission.

Discussion

Severe acute respiratory syndrome coronavirus 2 infection has been associated with a range of neuropsychiatric presentations.[1,2] Recently, potential mechanisms have been hypothesized[3,4]; however, the etiology remains largely unknown. It has also been documented that public health orders, such as isolation periods and lockdowns, may lead to an exacerbation of underlying psychiatric illness.[5] Moreover, it is unclear if COVID-19 vaccination could contribute to neuropsychiatric presentations in those who have recovered from COVID-19 pneumonitis. In this case, given the time course of COVID-19 infection, the subsequent isolation period, and vaccination, it is difficult to assess if 1 or any combination of those insults could have led to the subsequent manic episode. The ongoing chest x-ray changes suggest that recovery from COVID-19 pneumonitis likely contributed to the development of mania in this case. Future research is required to assess the effects that COVID-19 infection, vaccination, and isolation in different combinations exert upon inducing psychiatric symptoms such as mania in those with no prior psychiatric illness over the long term.

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REFERENCES

1. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020;395(10223):497–506.
2. Rogers JP, Chesney E, Oliver D, et al. Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic. *Lancet Psychiatry*. 2020;7(7):611–627.
3. Han Y, Yuan K, Wang Z, et al. Neuropsychiatric manifestations of COVID-19, potential neurotropic mechanisms, and therapeutic interventions. *Transl Psychiatry*. 2021;11(1):499.
4. Ellul MA, Benjamin L, Singh B, et al. Neurological associations of COVID-19. *Lancet Neurol*. 2020;19(9):767–783.
5. Uvais NA. Mania precipitated by COVID-19 pandemic–related stress. *Prim Care Companion CNS Disord*. 2020;22(3):20l02641.