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## RECURRENT PSYCHOTIC EPISODES FOLLOWING COVID-19 VACCINATION: A CASE REPORT

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**Background:** Acute neuropsychiatric symptoms induced by COVID-19 vaccination have been reported in several cases. Limbic encephalitis stands as one of the differential diagnoses due to its varied manifestations and etiologies making the diagnosis more challenging.

**Aims & Objectives:** We present a case that experienced recurrent brief psychotic symptoms and behavior changes with positive image findings following multiple doses of the Moderna COVID vaccine suggesting limbic encephalitis as a potential differential diagnosis.

**Method:** We present a case of a 55-year-old man with a history of end-stage renal disease undergoing hemodialysis, and a history of heavy daily alcohol consumption abstaining for 10 years. After receiving the first dose of the Moderna COVID vaccine, he developed acute onset psychotic symptoms characterized by grandiose delusions, vivid auditory and visual hallucinations, and hearing conversations about his alleged past life as a great poet from the 17th century who authored an enduring masterpiece. He remained capable of self-care but exhibited self-talking behaviors. The symptoms completely resolved within 2 weeks without any medication. The patient attributed the symptoms to a spiritual experience and continued to receive subsequent vaccine doses. These symptoms recurred in the same pattern lasting 2-4 weeks after receiving the second and third doses of the Moderna vaccine one month and five months after the initial dose. Around 6 months after the last dose, the patient experienced a similar recurrence of psychotic symptoms, with behavior disturbances which were accident proneness by self-talking on a busy road. A mild, non-febrile upper respiratory tract infection was identified as a possible triggering factor, with normal blood tests. A brain magnetic resonance imaging revealed some old lacunar infarctions and symmetric hyperintensities in the mesial temporal lobe on T2 FLAIR. CSF showed normal in routine analysis and EEG was unremarkable. He demonstrated complete orientation and focused conversation but continued to experience auditory hallucinations and remained firmly convinced of his delusions upon psychiatric visit without focal neurologic signs or abnormal movements. Serum and CSF autoantibody testing were declined and he received treatment with risperidone 1mg per day. The symptoms completely disappeared one week later.

**Discussion & Conclusion:** Psychosis following COVID vaccination has been previously reported, but recurrent episodes after each

administration have not been documented. Possible mechanisms may involve cytokines crossing the blood-brain barrier leading to acute neuroinflammation. The image findings and the polyphasic course make limbic encephalopathy the primary consideration of differential diagnoses. COVID vaccine-related autoimmune encephalitis has been reported but only in cases with a single episode. Other differential diagnoses to consider include acute disseminated encephalomyelitis (ADEM), and reversible cerebral vasoconstriction syndrome but lacks corresponding imaging evidence.

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