

Case report of new onset mania with psychotic features following COVID-19 vaccination

Amanda Pomerantz, DO, Adele C. Viguera, MD, Diana Lorenzo, MD, Anna P. Shapiro-Krew, MD

Department of Psychiatry, Cleveland Clinic

Introduction

- Neuropsychiatric manifestations of the COVID-19 virus have been well documented in the literature. This is thought to be multifactorial in nature through the virus' neurotropic properties and the body's inflammatory response to infection.
- However, possible neuropsychiatric symptoms following vaccination appear to be rare.
- We present a case of new onset mania with psychotic features following vaccination.

Case

- Patient is a 66-year-old female with no past psychiatric history who was medically admitted for altered mental status and agitation following her second BNT162b2 vaccination.
- Symptoms began one day later, described as dizziness, headache, and memory impairment, with progression to decreased need for sleep and bizarre behaviors.
- She was medically admitted for evaluation of symptoms, with initial concern for delirium due to impaired attention, awareness, and behavioral change.
- She was discharged home, but over the next 48 hours she was increasingly labile, religiously preoccupied, and grandiose prompting readmission.
- At time of readmission, her clinical presentation did not appear to be consistent with delirium, as attention and awareness were intact.
- Psychiatry was consulted for evaluation of mania.

COVID Vaccine #2 – 6/8/21

Medical Admission #1 – 6/18/21 to 6/19/21

- Confusion, perseverative speech, visual hallucinations

Discharged Home

- Agitation, disorganized speech

Medical Admission #2 – 6/21/21 to 6/24/21

- Pressured speech, mood lability, grandiose and paranoid delusions

Inpatient Psychiatric Admission #1 – 6/24/21 to 6/25/21

Inpatient Psychiatric Admission #2 – 6/25/21 to 7/23/21

- Decreased need for sleep, religious preoccupation, aggression towards staff

Inpatient Psychiatric Admission #3 – 8/11/21 to 8/25/21

- Mood lability, decreased need for sleep, transferred \$245K into checking account, disorganized behavior (throwing items), compulsions (handwashing, door checking)
- Discharged on lithium 300 mg QHS (level 0.7), quetiapine 25 mg BID, lorazepam 0.5 mg BID

Outpatient Follow-Up #1 – 9/28/21

- Cognitive slowing, memory impairment surrounding hospitalizations, fatigue, anxiety, new hypothyroidism
- Lorazepam decreased to 0.5 mg QHS

Outpatient Follow-Up #2 – 11/9/21

- Fatigued, but improved cognitive clouding, anxiety
- Quetiapine decreased to 25 mg QHS

Outpatient Follow-Up #3 – 12/14/21

- Improved attention, more spontaneous
- Quetiapine decreased to 12.5 mg QHS

Outpatient Follow-Up #4-5 – 2/22/22 & 4/19/22

- Continued improvement in affective reactivity, cognitive clouding, but having panic attacks
- Quetiapine discontinued; lorazepam increased to 0.5 mg QHS with 0.5 mg daily PRN breakthrough

Outpatient Follow-Up #6 – 7/11/22

- Subjective improvement in affective range for first time since index hospitalization
- Started psychotherapy
- Levothyroxine started

COVID Infection – 8/2/22

- No recurrence of mania despite dexamethasone treatment

Outpatient Follow-Up #7 – 9/12/22

- Improved anxiety, attention
- Gabapentin added by pain management

Results

- During her admission, COVID-19 testing was negative by PCR, and labs were unremarkable.
- Lumbar puncture was negative for an infectious cause of symptoms. CTA head and MRI brain were without acute findings. EEG showed mild cortical dysfunction in the left temporal region, without evidence of epileptiform discharges or seizures.
- Symptoms of mania worsened to include aggression, excessive spending, and development of both checking and handwashing behaviors.
- These behaviors prompted three psychiatric admissions and multiple medication trials over an eight-week period.
- Ultimately, symptoms resolved with a combination of lithium, quetiapine, and lorazepam.

Discussion

- While it is well documented that COVID-19 infection can lead to neuropsychiatric illness, the neuropsychiatric sequela of vaccination appears to be a unique phenomenon.
- There are only two documented cases of acute mania with psychotic features in patients without a history of psychiatric illness following COVID-19 vaccination.
- However, both patients had improvement within a week of antipsychotic treatment.
- In our case, the patient failed multiple medication trials and continued to experience symptoms of mania for almost two months following vaccination.

Conclusion

- Vaccination against COVID-19 remains important in the prevention of severe disease.
- While rare, as seen in our case and in the literature, new onset mania in patients without a past psychiatric history appears to be a possible sequela following COVID-19 vaccination.

References

1. Wu Y, Xu X, Chen Z, et al. Nervous system involvement after infection with COVID-19 and other coronaviruses. *Brain, Behavior, and Immunity*. 2020;87:18-22.
2. Yesilkaya UH, Sen M, Tasdemir BG. A novel adverse effect of the BNT162b2 mRNA vaccine: First episode of acute mania with psychotic features. *Brain, Behavior, & Immunity - Health*. 2021;18:100363.