

PSYCHOTIC ATTACK ACCOMPANIED BY CATATONIA RELATED TO COVID-19

Arif Çipil¹ & Seda Kiraz²

¹Psychiatry Department, Sivas Numune Hospital, Sivas, Turkey

²Psychiatry Department, Hitit University Erol Olçok Training and Research Hospital, Çorum, Turkey

received: 7.6.2021;

revised: 7.9.2021;

accepted: 2.10.2021

* * * * *

INTRODUCTION

Since the onset of the novel coronavirus (COVID-19) pandemic, an increasing number of patients present with neuropsychiatric signs associated with the disease (Sinanović et al. 2020). The virus affecting the central nervous system both directly and through the immune response it causes may cause acute psychiatric symptoms (Troyer et al. 2020). With studies examining the relationship between coronavirus and psychosis, it may be possible to make some inferences between the two diseases (He et al. 2021).

Catatonia is a potentially fatal syndrome characterized by motor, behavioral and affective abnormalities that can occur due to both psychiatric and many medical diseases (Walther et al. 2019). The most common etiological factors in medical condition-related catatonia are; infections, electrolyte imbalance, autoimmune encephalopathy, paraneoplastic syndromes, neurodegenerative disorders, brain trauma, central nervous system (CNS) tumors, cerebrovascular events (Weder et al. 2008).

In this article, we aimed to discuss a case of psychotic attack accompanied by catatonia related to COVID-19 without any neuropsychiatric disorder in the past.

CASE

A 19-year-old, single male patient was brought to the emergency service with his father complaining of confusion and change in behavior and thoughts. It was learned that he did not have a psychiatric or neurological disease, family history and past medical and substance. His complaints started 4 days ago, when the COVID-19 Polymerase chain reaction (PCR) test became positive. The test had been performed because of cough sore throat and cold symptoms. In the emergency room evaluation of the patient, the Glasgow Coma Scale was 15 and vital values showed a blood pressure of 135/75, pulse of 80, respiratory rate of 13, temperature of 36.5° C and oxygen saturation of 99% on room air. Serum biochemistry, electrolyte values and complete blood count values revealed normal. C-reactive protein was determined as 5.6 mg/dL. D-dimer and coagulation factors were in the normal range. Creatine kinase was 75 U/L. Non-contrast computed

tomography (CT) scan of the head resulted normal. In the chest CT scan, focal subpleural ground glass areas were observed in the right lung and were interpreted as being compatible with COVID-19. Urinalysis was normal. Electrocardiogram was within normal limits.

In the first psychiatric examination, he was compatible with his chronological age, had moderate self-care and he had no insight. He displayed the Capgras delusion and deeply believed that the brother who was with him was not his real brother and he also had persecutory delusion. The patient's brother indicated that the patient began displaying disorganized behaviors that had gotten worse in recent days. His agitation were stated to be more pronounced at night. The amount of his sleep had decreased for three days. Then the patient's hospitalization was planned to the covid clinic. Olanzapine 5 mg orally was recommended.

As the patient's complaints increased, the patient was consulted by psychiatrist on the third day of his admission. In the psychiatric examination during hospitalization, could not communicate with the patient. His eye contact was continuous but he did not answer questions. He was agitated. The quantity of speech was echolalia and verbigeration. During the interview, he appeared to have catalepsy with his back and neck in a straight upright position. Stereotypical spitting behavior was observed. He had a negative attitude. No signs of rigidity or cogwheels were detected in the muscle examination. It was learned that he accompanied his brother in the service room and imitated actions such as walking, turning and sitting. The patient was consulted with the neurology and infectious diseases clinic. Neurological examination, biochemical evaluations, brain imaging tests and electroencephalography (EEG) results were evaluated as normal. Lumbar puncture was performed by infection specialist and stained direct microscopic examination of the cerebrospinal fluid was within normal limits. As a result, the patient was diagnosed with a psychotic attack accompanied by catatonia. In treatment, olanzapine 5 mg and lorazepam 2 mg orally in a day was started. Lorazepam was gradually increased to 3 mg per day. With the treatment, the symptoms of the patient's catatonia regressed and his general condition improved.

DISCUSSION

One of the most commonly used classification systems in the fifth edition of the diagnostic and statistical guide of mental disorders (DSM) the schizophrenia-catatonia relationship has ended, and 3 or more finding was adequate to be diagnosed with catatonia (Caan et al. 2020). In our case, several signs of catatonia were seen, including catalepsy, echolalia, stereotype, negativity, waxy flexibility and automatic obedience. Apart from psychiatric disorders, catatonia is caused by many medical conditions. These causes were tried to be excluded from medical reasons in the case, no pathological findings were detected in laboratory examinations, imaging methods, lumbar puncture, EEG, physical examination, and substance toxicology in urine. Our patient's primary medical problem was COVID-19, a viral respiratory disease that can progress to pneumonia. Viruses affecting the respiratory system have been reported to affect the CNS both directly and through the immune response they cause, and induce neuropsychiatric disorders (Troyer et al. 2020).

Catatonia due to COVID-19 is very rare in the literature (Caan et al.2020; Gouse et al. 2020; Zandifar & Badrfam 2020). The most distinctive difference of our case from the literature is that it was seen at a young age. Other catatonia cases reported in association with Covid 19 are middle and elderly individuals (Caan et al.2020; Gouse et al. 2020). While cases of catatonia associated with COVID-19 infection were reported in patients with a previous diagnosis of schizophrenia (Gouse et al. 2020; Zandifar & Badrfam 2020) our case did not have a history of past psychiatric illness. Although the etiology of COVID-19 and psychosis has not been fully elucidated; increased immune response, releasing pro-inflammatory cytokines, hematological high inflammatory state in COVID-19 is thought to increase blood-brain barrier permeability, destroy brain cells and become a provoking factor for the emergence of psychoses (He et al. 2021). The emergence of psychotic symptoms in our case immediately after the diagnosis of COVID-19 suggested that it occurred as a result of the effects of COVID-19 on the central system.

Despite significant emphasis on respiratory damage caused by COVID-19, we tried to show that its effects on the CNS are also important. Considering the possibility of catatonia in patients with a diagnosis of COVID-19 presenting with neuropsychiatric symptoms is important and life-saving in terms of emergency treatment.

Acknowledgements: None.

Informed consent:

Written and verbal informed consent was obtained from the patient for the publication of patient information.

Conflict of interest: None to declare.

Contribution of individual authors:

Arif Çipil: study conception and design, acquisition of case history, drafting of the manuscript.

Seda Kiraz: analysis and interpretation of data, drafting and revision of the manuscript.

References

1. Caan MP, Lim CT & Howard M: A case of catatonia in a man with COVID-19. *Psychosomatics* 2020; 61:556–560
2. Gouse BM, Spears WE, Archibald AN, et al.: Catatonia in a hospitalized patient with COVID-19 and proposed immune-mediated mechanism. *Brain Behav Immun* 2020; 89:529–530
3. He Y, Yu R & Ren J: The Correlation between Psychiatric Disorders and COVID-19: A Narrative Review. *Psychiatr Danub* 2021; 33:76-85
4. Martin EB: Brief Psychotic Disorder Triggered by Fear of Coronavirus? A Small Case Series. *Psychiatr Times* 2020; 37:15
5. Rogers JP, Pollak TA, Blackman G, David AS: Catatonia and the immune system: a review. *Lancet Psychiatry* 2019; 6:620–630
6. Sinanović O, Muftić M & Sinanović S: COVID-19 Pandemia: neuropsychiatric comorbidity and consequences. *Psychiatr Danub* 2020; 32:236-244
7. 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; 87:34-39
8. Walther S, Stegmayer K, Wilson JE, Heckers S: Structure and neural mechanisms of catatonia. *Lancet Psychiatry* 2019; 6:610–619
9. Weder ND, Muralee S, Penland H, Tampi RR: Catatonia: a review. *Ann Clin Psychiatry* 2008; 20:97-107
10. Zandifar A & Badrfam R: Exacerbation of psychosis accompanied by seizure and catatonia in a patient with COVID-19: a case report. *Psychiatry Clin Neurosci* 2020; 75:63–64

Correspondence:

Seda Kiraz, MD

Psychiatry Department, Hitit University Erol Olçok Training and Research Hospital
Çorum, Turkey

E-mail: drsedakiraz@gmail.com