Psychosis associated with COVID-19 infection - a case report

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ABSTRACT

Background: Evidence of psychiatric side effects of coronavirus disease-19 (COVID-19), though rare, have been reported in several case reports.

Case Presentation: This case highlights the emergence of psychosis in a COVID-19 seropositive 32-year-old female patient immediately after receiving a positive polymerase chain reaction test result of COVID-19. After 8 days of admission and treatment with olanzapine, the patient was in complete remission.

Conclusion: Further investigation into the link between COVID-19 viral infections and the potential to elicit changes in the mental status of affected patients is warranted.

Keywords: Psychosis, COVID-19, side-effects, case report.

Introduction

Nearly 2 years after the pandemic, there are many things about coronavirus disease-19 (COVID-19) that we have yet to understand. The initial presentation of the disease shaped our early understanding of it being a respiratory illness. However, findings have revealed that the disease may present itself beyond the physical symptoms. Reports have shown evidence of neurotransmitter level variation in response to a COVID-19 infection of the central nervous system, thought to occur via the olfactory, circulatory, and conjunctival routes [1]. This is consistent with the findings that severe acute respiratory syndrome coronavirus-2 has been shown to affect the central nervous system [2,3]. In this case report, we describe a patient who developed psychosis after acquiring a COVID-19 infection.

Case Presentation

A 32-year-old Saudi female mother of three, without significant past medical or psychiatric history, with no family history of medical or psychiatric conditions, presented to the emergency department with agitation, labile mood, talking nonsense, bizarre behavior, and auditory and visual hallucinations. Her family reported that she was not sleeping well and had been increasingly worried about her children’s wellbeing. The patient’s family also noted that her anxiety progressed into agitation, nervousness, and hostility, and she was shouting and screaming hysterically for 1 week. She told her family that she saw and spoke to angels and deceased family members. Sometimes, she exhibited odd behavior such as singing, and dancing and the family couldn’t make sense of her speech or behavior. Her symptoms started 3 weeks before presentation to the emergency department immediately after receiving a positive polymerase chain reaction (PCR) test result of COVID-19. The patient did not receive the COVID-19 vaccination and was physically asymptomatic. The PCR was carried out based on the history of contact with a confirmed COVID-19 case within the family.

In the emergency room, the patient was agitated and resistive and had to receive intramuscular tranquilization. General physical and neurological examinations were unremarkable, and there was no evidence of delirium. Blood tests, brain computed tomography, and electroencephalograph were all normal. The patient was admitted to the psychiatric inpatient unit and treated with oral olanzapine 10 mg daily. Her symptoms...
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responded within a few days with complete resolution. Premorbid personality was described as anxious and fearful, and she reported having ongoing psychosocial stressors mainly of a marital origin that a COVID-19 infection had exacerbated. Counseling and psychosocial intervention were provided during her 8-day admission, and eventually, she was discharged home in complete remission on oral olanzapine 10 mg daily.

Discussion

The association between COVID-19 and new-onset psychosis was first observed in China in a retrospective chart review study which showed a 10% rise in first-episode psychosis [4]. Subsequently, several case reports of psychosis associated with COVID-19 infection were published, and recent neurobiological evidence indicates a significant risk for the development of psychosis [5]. Psychosis was reported in relation to COVID-19 quarantine [6] and COVID-19 induced psychosis and suicidal behavior [4]. Also, psychosis was noted to exacerbate in a patient known to have schizophrenia, resulting in catatonia and seizure after contracting a COVID-19 infection [7]. This case shows possible COVID-19 associated inflammatory triggers that can precipitate psychosis in PCR seropositive patients. It is also probable that excessive anxiety and fears related to COVID-19 infection contributed to this patient’s psychotic symptoms.

Conclusion

This case demonstrates the importance of identifying and treating psychiatric conditions associated with COVID-19 infections.

List of Abbreviations

PCR	Polymerase chain reaction

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

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