First-Episode Psychosis With Delusional Jealousy During SARS-CoV-2 Infection:

COVID-19 Secondary Psychosis or a Trigger for a Primary Psychotic Disorder?

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Psychosis is a state primarily defined by the presence of delusions and hallucinations and is likely to have a multifactorial origin.[1] Viral infections have been suggested as one of those etiologies.[2,3] Coronavirus disease 2019 (COVID-19) is an infection caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus, which can trigger several neuropsychiatric symptoms.[1,2,4] However, data about COVID-19–associated psychosis are currently limited.[1–16] Here, we aim to present a case report of first-episode psychosis during SARS-CoV-2 infection.

Case Report

A 61-year-old man presented to the emergency department in November 2020 with cough, myalgias, and fever. The patient's nasopharyngeal swab testing by RT-PCR (real-time polymerase chain reaction) was positive for SARS-CoV-2 infection. The symptoms fully remitted a week later.

A month after symptom remission, the patient was brought to the emergency department. He was convinced his spouse was being unfaithful, claiming he could hear her having erotic conversations with a person he could not identify in a set of audio recordings on his mobile phone. It was acknowledged that the patient's delusional belief started 2 days before his COVID-19 symptoms presented. The patient had no significant personal or family psychiatric history. The objective examination showed no focal neurologic deficits or other relevant findings. On mental state examination, delusional jealousy was present and functional auditory hallucinations were identified. He showed lack of insight for his situation.

Internal medicine physicians evaluated the patient and ruled out emerging medical conditions. The RT-PCR remained positive for SARS-CoV-2 infection. Cranial computed tomography scan, full blood count, biochemical profile, urinalysis, serologic tests, thyroid function tests, drug tests, and vitamin levels were unremarkable.

Table 1. Distinction Between Delirium and Psychosis in SARS-CoV-2 Infection

	Delirium	Psychosis
Epidemiology	Common[17]	Rare[4]
Clinical features	Confusion[4] (specially time and space disorientation)	Uncommon
	Agitation/hyperactive[4,18] or mixed[17]	Can occur
	Altered consciousness[4]	Uncommon
	Symptoms fluctuation[7]	Uncommon[7]; delusions and hallucinations are more constant and organized
	Presence of known physical illness[7]	Not physically ill[7]
Workup	Altered laboratory workup[7]	Negligible laboratory derangement[7]

Abbreviation: SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2.

First-episode psychosis was diagnosed, and the patient was voluntarily admitted to the psychiatry ward. The patient was started on risperidone 3 mg at night, which was progressively increased to 2 mg at breakfast and 3 mg at night, because it is recommended as first-line therapy in psychosis and displayed efficacy in other published COVID-19–associated psychotic disorders.[9,10,14] Lorazepam 0.5 mg 3 times/d was prescribed for anxiety management. During the hospital stay, the delusion of jealousy was progressively less systematized, with less impact on humor and behavior, and the patient did not spontaneously mention it. He was discharged 15 days after admission under the aforementioned therapy.

The patient attended the scheduled psychiatry consultations; risperidone was progressively decreased and lorazepam was weaned off. Three months after discharge, the patient remained asymptomatic on risperidone 1 mg daily.

Discussion

Apparent COVID-19–associated psychosis cases have been reported, but establishing a causal relationship between SARS-CoV-2 infection and psychosis requires a considerable evidential threshold, which most studies failed to expose.[3] Most cases report psychotic symptoms in delirium during the acute phase of SARS-CoV-2 infection[3] (Table 1). In the present case, the patient remained conscious and fully

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orientated at all times, excluding delirium. Other studies report corticosteroid-induced psychosis,[4] which were not prescribed to our patient.

Our case illustrates a challenging diagnosis that can represent an organic delusional disorder secondary to COVID-19 or a delusional disorder in which COVID-19 acted as a trigger for the psychotic disorder about to flourish. The coincidental presentation time points toward an organic delusional disorder secondary to COVID-19. This is the first case report, to our knowledge, of a primary psychotic episode with delusional jealousy during SARS-CoV-2 infection.

Limitations of this case report comprise investigations that were not carried out, such as lumbar puncture. Lumbar puncture could establish the etiology of the symptoms, but the medical team considered it pointless to perform an invasive procedure without impact on treatment or short-term outcome.

This case demonstrates the importance of awareness of the possibility of SARS-CoV-2 infection in patients with new-onset psychotic symptoms. Prospective research concerning psychiatric symptoms of patients infected with SARS-CoV-2 is mandatory.

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