

Case Report

A patient developing Schizophrenia after presenting with Obsessive-Compulsive Symptoms during the COVID-19 Pandemic

S Aaliya Aslam¹, Ajita S. Nayak², Sourabh N Pal¹

¹Resident Doctor, Department of Psychiatry, Seth GS Medical College and KEM Hospital, Mumbai, Maharashtra, India.

²Professor and Head of the Department of Psychiatry, Seth GS Medical College and KEM Hospital, Mumbai, Maharashtra, India

Corresponding author: S Aaliya Aslam

Email – aaliyashaikh7796@gmail.com

ABSTRACT

When the real disease burden and dramatic effect on physical and mental health are considered, the COVID-19 pandemic is unprecedented in recent history. COVID-19 causes a range of symptoms, including neuropsychiatric complications, due to its infectious pathology. Furthermore, variables such as quarantine, social isolation, and illness fear have harmed the health of non-COVID-19 patients. There is a substantial body of literature documenting new-onset psychiatric disease in all global populations, including those with no prior psychiatric illness. In the context of COVID-19, this report describes a female with no prior psychiatric history who presented with new onset symptoms of obsessive-compulsive disorder that progressed to psychosis. There are numerous reports describing new-onset obsessive-compulsive disorder, albeit with conflicting prevalence and exacerbations in the context of COVID-19 in both adult and adolescent populations, but only a few reports describing new-onset psychosis in those same populations and setting.

Keywords: COVID-19, Obsessive-Compulsive Disorder (OCD), Schizophrenia, Olanzapine.

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INTRODUCTION

The coronavirus 2019 (COVID-19) first appeared in Wuhan, China, and by December 2021, there had been over 270 million confirmed cases, with 5.3 million fatalities [1]. COVID-19 exhibits a variety of symptoms due to its spike-like glycoproteins attaching to the widely used angiotensin-converting enzyme 2 (ACE2), although the pathophysiology of SARS-CoV-2 neuropsychiatric complications such as anxiety, psychosis, delirium, and depression is still unknown. It is well established that the COVID-19 pandemic has exacerbated psychiatric disorders in patients with a history of psychiatric disorders through tactics such as quarantine, social distancing, and, in particular, social isolation [2]. Obsessive-compulsive disorder, a relapsing and remitting disorder affecting function, is characterised by recurring obsessions and compulsions, the most prevalent of which are contamination and cleaning. Despite remission of OCD symptoms previous to the pandemic, the severity of obsessions and compulsions increased from the start of the pandemic [3]. Psychosis is characterised by impairment in reality testing, which frequently includes hallucinations without awareness and/or delusions that cause functional impairment. It has also been documented to begin with fear of COVID-19 in patients with no prior psychiatric history [4], to worsen paranoia in patients with a psychiatric history, to occur after recovery from SARS CoV-2 infection, or during a COVID-19 infection [5]. Psychosocial factors such as increased stress from a pandemic, such as the rise in psychosis during the influenza epidemic, are associated with the onset and worsening of psychosis [6]. This case report contributes to the growing body of literature on psychosis in COVID-19 patients. We present the case of a female with no prior psychiatric history who appeared with new onset obsessive-compulsive

symptoms that progressed to a full-blown psychotic episode which might have been influenced by the COVID-19 pandemic. The patient's original presentation is described, followed by psychiatric hospitalisation and gradual improvement.

CASE REPORT

Ms. X, a 29-year-old female, was brought in by family members with complaints of repetitive intrusive thoughts about becoming contaminated, which would be followed by compulsive handwashing, cleaning the house repeatedly, sprinkling rose water everywhere, irritability over trivial issues, suspicion of family members engaging in unsanitary practices, and sleep disturbance. Her symptoms began gradually and insidiously about two years before her first hospital visit, when her father was diagnosed with COPD (chronic obstructive pulmonary disease) after COVID infection during the SARS-COV outbreak, with a family history of depressive illness in her mother and completed suicide in a third degree relative. She was diagnosed with obsessive compulsive disorder with poor insight and began treatment with Olanzapine 2.5 mg and Fluvoxamine 50 mg. She responded to the medications in that her irritability diminished and her sleep improved.

She did, however, discontinue taking medications because she did not sense the need to do so. She was brought back to the Outpatient Department about 3 months later with disorganized behaviour in the form of aggressive and assaultive behaviour, decreased self-care, suspicion against family members that they want to poison her, so she stopped eating home cooked food, shifted completely to packaged food, and lost significant weight; suspicion against neighbours that they want to harm her and are purposefully contaminating the water tank, so she stopped drinking tap water and switched to bottled water. She also began hearing voices of individuals talking to each other that were not audible to others, which disrupted her sleep. In view of her aggressive behaviour, the patient was admitted to the hospital and began on injectable Haloperidol 5 mg with Promethazine 50 mg twice daily and as needed for acute control of aggression. Olanzapine was restarted with 7.5 mg in view of her psychotic symptoms, Lorazepam 2 mg was added for sleep disturbance and Fluvoxamine was discontinued. All routine tests were completed, and the patient was put on Electroconvulsive Therapy. During the course of hospitalization, oral Haloperidol was introduced and gradually increased to 20 mg, along with Trihexyphenidyl 6 mg. After about the third ECT, the injectables were discontinued and the patient was fully switched to oral medications. Lorazepam was discontinued and Olanzapine was increased to 20mg. After about the fourth ECT, the patient began consuming home-cooked food and began drinking water. A total of 11 ECTs were administered, and the patient was discharged (Table 1) with overall 70-80% improvement in her symptoms and with a diagnosis of Schizophrenia with Obsessive-Compulsive symptoms.

Table 1: Mental Status Examination at each stage:

Points on MSE	First Outpatient Department visit:	First Hospitalization	On Discharge
Appearance	Conscious, cooperative, communicative, well groomed	Conscious, min cooperative, hostile, guarded, appeared dishevelled and emaciated	Conscious, cooperative, communicative, well groomed
Behaviour	Good eye contact.	Eye contact mostly avoided	Good eye contact. Activity level is appropriate
Psychomotor activity	No abnormal movements and no psychomotor agitation or retardation	No abnormal movements. Increased psychomotor agitation	No abnormal movements and no psychomotor agitation or retardation
Mood	Euthymic	Conveyed euthymic, appeared irritable	Euthymic
Affect	Restricted	Restricted	Congruent to mood

Speech	Normal in rate, rhythm and volume but irrelevant at times	Increased tone and volume, irrelevant and difficult to comprehend at times.	Normal in rate, rhythm and volume. Well-articulated Coherent and relevant
Thought process	Poverty of content	Poverty of content	Linear and logical
Thought content	Obsession of contamination, obsessive ruminations and compulsions, transient elementary auditory hallucinations	Delusion of persecution, delusion of reference, obsession of contamination, obsessive ruminations and compulsions, third person auditory hallucinations (transient, derogatory type)	Reality based, denies delusion and hallucination
Suicidal ideation	Without ideas, plans or intent	Without ideas, plans or intent	Without ideas, plans or intent
Attention/Memory	Active attention aroused but ill sustained, passive attention increased. Intact immediate and short-term memory.	Active attention aroused but ill sustained, passive attention increased. Uncooperative for memory elicitation.	Attention is good. Intact immediate and short-term memory
Intelligence	Average for age based upon fund of knowledge, comprehension, and vocabulary.	Uncooperative	Average for age based upon fund of knowledge, comprehension, and vocabulary.
Judgement	Intact	Impaired	Intact
Insight	Poor insight	No insight	Good insight

DISCUSSION

It is well documented that the dread of contracting COVID-19 causes intense feelings such as loneliness, stress, anxiety, fear, anger, depression, paranoia, and even suicidal ideation [7]. The pandemic's increased stress, exacerbated by societal distress, isolation, and widespread dread, is likely to have an impact on both the aetiology and maintenance of Obsessive-compulsive symptoms [8]. The theories about the mechanism of Obsessive-compulsive symptom exacerbation during the COVID-19 pandemic emphasise the importance of hand and surface hygiene, as well as the continuous barrage of media warnings about the disease threat [9]. Fear of SARS-CoV-2 has been linked to symptoms of anxiety and depression in teenagers, which is thought to be mediated by negative emotional reactivity. Furthermore, there is evidence that experiential avoidance may result in Obsessive-compulsive symptoms due to cognitive errors [10].

Data indicating an increased incidence of psychosis were found during other viral flu-like pandemics, including the 2003 SARS-CoV-1, 2009 H1N1, and 2012 MERS outbreaks [11]. Brown and others [12] estimated that approximately 0.9-4% of individuals exposed to H1N1 influenza, Ebola, SARS, MERS, or COVID-19 developed psychosis or psychotic symptoms, a significantly higher percentage than the general population's median incidence of 0.015%. Similar findings have been made in the setting of other viral agents such as herpes simplex virus, human immunodeficiency virus (HIV), Epstein-Barr virus, and cytomegalovirus.

We describe a patient who presented with prodromal symptoms of obsessions, compulsions, anxiety, intrusive thoughts, and referential ideas, and who was predisposed to developing mental illness due to genetic loading, eventually developed full-blown psychotic features in a few months and was later diagnosed with Schizophrenia. The patient reacted to antipsychotic medications, including Olanzapine for psychotic and obsessive symptoms and Haloperidol for acute aggression control. It has been found that Olanzapine was effective in Schizophrenia with obsessive-compulsive symptoms [13]. The predominance of 5-HT

antagonist action over antidopaminergic effect could be a potential mechanism mediating the effect of Olanzapine in a subgroup of Schizo-obsessive patients. Both Schizophrenia and Obsessive-compulsive symptoms are thought to be caused by an imbalance in the 5-HT and dopamine networks. Normalization of this balance may underpin Olanzapine's beneficial impact on both types of symptoms. We believe that this is case-specific, and that it is beneficial to try Olanzapine in such patients. The patient's symptoms in this instance included auditory hallucinations, which may suggest psychosis rather than OCD, and were resolved with Olanzapine. Furthermore, given the patient's symptoms of flat affect, poor eye contact, paranoia, social withdrawal, lack of personal hygiene, and auditory hallucinations, an underlying psychosis is a plausible possibility. Obsessive-compulsive symptoms are present in 25% of Schizophrenic patients, and OCD is diagnosed in 12% of these patients [14].

As a result, the authors find that Olanzapine is an effective treatment for Schizophrenia patients with comorbid Obsessive-compulsive symptoms. In a large population-based cohort study of over 200,000 patients, it was highlighted that the risk of psychotic disorder rose considerably during the 6-month follow-up period after COVID-19 [15]. As a result, the authors conclude that the COVID-19 pandemic, like many others, had a significant effect on people's mental health, causing significant impairment in functioning if not treated promptly.

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