Received: 30 November 2020 | Revised: 4 February 2021 | Accepted: 8 February 2021 | Published online: 17 March 2021

DOI: 10.1002/dad2.12166

Alzheimer's & Dementia
Diagnosis, Assessment & Disease Monitoring

SHORT REPORT

Dementia or psychosis precipitated by social isolation? A brief case report in COVID-19 pandemic times

Gustavo Carvalho de Oliveira[1,2,3,4]

[1] Faculdade de Ciências da Educação e Saúde, Centro Universitário de Brasília (UNICEUB), Brasília, Brazil

[2] Centre for Forensic Behavioral Science, Swinburne University of Technology, Melbourne, Australia

[3] Instituto de Psiquiatria, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil

[4] Secretaria de Estado de Saúde do Distrito Federal, Brasília, Brazil

Correspondence
Gustavo Carvalho de Oliveira, Centro Universitário de Brasília (UniCEUB), Coordenação do Curso de Medicina, SEPN 707/907–Campus Universitário–Asa Norte, Brasília, Distrito Federal 70790-075, Brazil.
E-mail: psiquiatragustavo@gmail.com

Abstract

Background: The year 2020 was marked by the pandemic of COVID-19, which abruptly changed the ways of dealing with viral infections and social relationships. Cognitive, emotional, and neurological effects due to infection with this condition, as well as several health damages, are due to social isolation.

Aim: To recognize the consequences of and reasons behind forced social isolation and related psychosis symptoms.

Method: This is a case report of a healthy 70-year-old female patient who began to experience paranoid delusions and auditory hallucinations after adopting strict measures that abruptly impacted her routine of activities outside the home, by confining herself at home overnight. The patient has agreed to the publication anonymously and signed an informed consent.

Results: The patient required rapid and home treatment with risperidone antipsychotics, and eventually had a total remission of symptoms. The suspicion of dementia or another organic cause was investigated and has so far been ruled out.

Discussion and conclusions: It is suggested that the situation was triggered by abrupt and unorganized social isolation during the pandemic. A literature review on the subject was carried out, finding pertinent information about psychosis, social isolation due to COVID-19, and the case described. The patient will follow a careful follow-up with a plan for withdrawal of antipsychotic medication after 6 asymptomatic months with monitoring of demented prodrome. It is necessary to study more about this topic and promote planning in case of a need to adopt extreme measures, such as isolation and lockdown.

KEYWORDS
Alzeheimer, COVID-19, dementia, pandemic, psychosis

1 | INTRODUCTION

The year 2020 was marked by the COVID-19 pandemic, which changed the ways of dealing with viral infections and social relationships. Recent studies indicate cognitive, emotional, and neurological effects due to infection by the novel coronavirus.[1]

The effects of the pandemic scenario, such as social isolation, and ignorance about the best strategies to deal with the pandemic as well

RESEARCH IN CONTEXT

1. **Systematic review**: Studies involving psychotic conditions in the context of the pandemic are rare in literature. Searching this topic in the PubMed database using the keywords "psychosis," "COVID-19," or "pandemic," uncovered 153 published articles. After reading all abstracts, only five articles were found eligible, and these mostly referred to case reports or case series, with altogether 13 cases described. Two cases were associated with delirium, and atypical psychotic conditions. A controlled study and a narrative review were found on this topic.
2. **Interpretation**: Comparing the literature and case report described in the article, we hypothesize that a relationship exists between social isolation that is clinic-induced and one that is disorganized or triggered abruptly.
3. **Future directions**: The literature review yielded poor information on psychosis, social isolation, and COVID-19. More research on this topic and minimal planning is necessary if extreme measures, such as isolation and lockdown, are adopted.

as the major changes in the routines of all people may be related to, or trigger, serious illnesses.

2 | CASE REPORT

On May 4, 2020 the family of patient M, a 70-year-old female, single, with completed higher education, without children and without medical, psychiatric, or neurological comorbidities, a resident of Brasília with a 63-year-old sister, made contact and asked for medical assistance at home considering the risk of contagion by COVID-19. They reported that in the previous week M had been suspicious, withdrawn, and accusing her four brothers and some neighbors of setting her up to be arrested by the police. She claimed to be hearing whispers and plans, through the walls, of people in the building where she lives accusing her of being a murderer, claiming she had murdered her own mother 7 years ago. She defended herself, saying that her mother died of lung problems and an infectious condition in a hospital in the city. In addition, M had insomnia and spent the nights walking and accusing her neighbors, saying that she would not accept this injustice and would react. She often said that she heard sirens, and a day before the medical appointment, she was sure that the police were at the building's entrance to try to take her to the city's prison. She said that she often heard screams of "killer" directed at her and believed that there were secret meetings conducted with the intention of taking her as a prisoner. There have been some suspicions of dementia in her family (some uncles) in the past, but the patients had died many years ago, so there is no official documentation confirming that diagnosis.

M accepted the medical appointment at her home and reported the situation exactly as described by her family. She also said that she was suffering from insomnia and had lots of concerns about the coronavirus pandemic. She gave religious and political speeches, manifesting them as a concern although her views did not match the reality of the situation. Until the sudden closing of shops, schools, and other places, M had led a very active life; she used to go to several groups for the elderly. She did crafts, and she went to a public center where she studied languages and had access to computers and she could use the internet. In a completely abrupt way, M had to stay locked up at home, which had a serious impact on her routines. At home, she did not have access to the internet or a computer, nor her cell phone; she communicated with the outside world by phone conversations with her family and through news on television. The television news reported by her was incessant with sensational content, showing tragedies related to the pandemic and generating great despair. There were no changes in memory and cognition, and there was no clinical complaint, even when asked directly about each. Physical examination did not reveal any changes. M scored 29/30 on the Mini-Mental State Examination (MMSE). The psychiatric examination revealed the patient to be conscious and self-oriented, with normal hygiene, euthymic mood, and an affection tending to irritability and frustration. She was, at the time of the medical appointment, feeling injustice, speaking in a normal tone but with a fast pace with quick thoughts, with a pressure to speak about what was happening to her. Persecutory delusions and auditory hallucinations were present during the consultation. She showed impaired critical judgment, but had good rapport with the examiner. Thus, a diagnosis of psychotic crisis was made with possible etiologies of organic cause, including dementia, vascular condition, infectious process, or a transient psychotic disorder or even the onset of a late psychosis, such as persistent delusional disorder or late-onset schizophrenia. The immediate procedures were investigated with general laboratory exams, chest radiography, and magnetic resonance imaging (MRI) of the skull. She was, at the time, started with a prescription of risperidone (1 mg per night) with reassessment in 1 week or less, if necessary.

After 1 week, as agreed, contact was made with the patient and her family, which revealed a significant improvement after the fth day of using antipsychotics, with a progressive adjustment of sleep and reduction of persecutory speech and without any further perceptual alteration.

Four weeks later, M was again evaluated in person and her psychiatric examination was completely different from the initial one, with a calm speech, very discreet and non-pathological anxiety, and self-criticism in which M herself believed that those initial thoughts of persecution and accusations would probably be related to the sudden changes in her life, caused by total and abrupt isolation. She described herself as an active person throughout her life; she had never stayed at home without any activity. Physical examination revealed no changes, and M reported no side effects due to medication. No problems were found in the exam. Medication intake was being supervised by her sister. All tests performed were normal, including MRI of the skull. She

remained asymptomatic for respiratory symptoms and performed a rapid test for COVID-19 that was negative, with no suspected infection. The new MMSE score was 30/30 points. The patient and her family were advised of the need to continue monitoring and using risperidone for at least 6 months.

In the following visits, including the last one performed 4 months after the initial visit, M remained well, without psychotic symptoms, but with some moments of worsening insomnia, having initially oriented herself to sleep hygiene. An important goal was to reduce and withdraw risperidone and, if necessary, control insomnia with other medications. Monitoring cognitive function is another important pillar, as M is currently at an age of risk of incipient dementia that can start with mental confusion or even psychotic symptoms.[2]

3 | DISCUSSION

Studies involving psychotic conditions in the pandemic context are still scarce in the literature, with no such publications in Brazilian magazines. In a search on this topic in the PubMed database involving the terms "psychosis" and "COVID-19" or "pandemic," 153 published articles were found. After reading all those abstracts, five articles were found referring to case reports or to a series of cases, with a total of 13 cases described. Two of those were compatible with delirium, and not typical psychotic conditions. There is also one controlled study and one narrative review on the topic.

The case series involved two publications. The first[3] described three previously healthy men and three healthy women who developed their first psychotic crisis during the lockdown period in Italy. None of them had COVID-19 and had an average age profile of 53 years old. All patients had religious or spiritual delusions, and had an excellent response to low-dose olanzapine (an average of 10 mg/d) with clinical control in < 10 days. The other publication[4] involved reports of two men and two women in a Spanish hospital. The patients had an average age of 39.8 years, all employed, with no previous psychiatric history. All of them had delusions, and only one patient had hallucinations. The mean total symptom remission time was 9 days. The drugs used were aripiprazole (20 to 30 mg/d), olanzapine (10 mg/d), and risperidone (1.5 mg/d).

Finally, there are four individual case reports. The first two[5,6] are brief reports related to infection by COVID-19, with quick remission. These patients seem more likely to develop delirium. Another case report[7] described a severe psychosis requiring hospitalization for 14 days, in which a healthy 38-year-old woman began to feel terrified, as she admitted to having visited a dentist who was not wearing a mask. She was discharged with remission of the condition and negative results for COVID-19. The last case report[8] involved a 52-year-old man with coronavirus-related paranoia that culminated in suicide attempts and more complicated management that also required hospitalization. Thus, an extremely relevant anxiety component was noted in the article, but it did not clarify the patient's psychiatric history, and he was discharged after 4 weeks with prescriptions of antipsychotics, benzodiazepines, and antidepressants.

On relating the case described with those in the literature, as mentioned above, similarities were noted in relation to delusional symptoms, and there was also an excellent response to atypical low-dose antipsychotics in patients without previous psychiatric history.[3–8] A specific detail in our case is that it was safely and effectively mediated without hospitalization, which is a positive and relevant factor, especially considering the patient's advanced age. There are other aspects that differ from the cases described; they all involved young individuals, almost all employed and without other clinical suspicions.[3–7]

When adequate treatment is not available on time, serious complications can occur, such as suicide attempts[8] and even hospitalization for relatively long periods.[3,4,7,8] If we try to understand possible triggers, the main probabilities include the fear of contagion (patient or their family), compulsory unexpected confinement at home, and direct economic consequences of lockdown, such as loss of employment and financial security.[3,4] In our case, the compulsory self-confinement required in the patient's city without prior planning seems to be the most directly related trigger. M also believes that is the cause of her illness .

The narrative review[9] found on the topic focuses on studies of patients diagnosed with COVID-19 and concludes that there are several descriptions of reports of psychosis and COVID-19 infection in the world, in general, with satisfactory responses to antipsychotics, but so far it is not possible to relate the virus directly to psychosis. It is noteworthy that cases of organic origin, such as viral infections, reveal several behavioral changes, with psychotic and delusional symptoms being relatively frequent.[10,11]

A controlled study[12] in England divided 361 people into groups exposed or not exposed to isolation and COVID-19, seeking to correlate the development of paranoid symptoms with several factors. It was found that employed individuals and students had a higher incidence of paranoia. Mistrust about government policy and experiencing great fear about COVID-19 increased the risk of developing paranoia and hallucinations.

As a counterpoint, one article[13] studied global phenomena, such as world wars and major economic recessions, and found an increase in people staying at home and surrounded by their families at these times, theorizing that this would be an important protective factor for the development of psychoses. It is proposed to be a defense mechanism and could possibly be a protective factor for psychosis in pandemics, with people being closer and united with their families. Although it is a hypothesis to be studied, given the lack of specific works that relate the pandemic to psychotic conditions, when looking for studies already carried out on COVID-19 and mental illness, we found a great increased illness in numerous studies.[14,15]

Dementia in elderly people often starts with delusions of persecution and with distrust, which can progress to psychosis.[2,10] Hence, our patient was kept at and will remain under constant medical monitoring. She and her family were instructed to observe signs compatible with dementia prodromes and psychic illness.

Abrupt and disorganized social isolation, without offering reasonable possibilities for minimum social functioning, can have serious impacts on people's lives and health, especially elderly people, as seen

in the case described. It is understandable that a highly contagious disease and unknown risks may have a rapid response, and lead to extreme measures such as isolation or an abrupt lockdown. However, even if it is considered necessary, it is essential to adopt measures to contain damages with concern for the mental health and well-being of the population.

The literature on this topic is scarce, and thus far, no work has been described in Brazil. This report is a relevant, albeit unique case, as it deals with the original theme and contributes to the dissemination of information on this new and incipient theme.

CONFLICTS OF INTEREST

The author reports no conflicts of interest.

ORCID

Gustavo Carvalho de Oliveira https://orcid.org/0000-0002-2468-1248

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How to cite this article: de Oliveira GC. Dementia or psychosis precipitated by social isolation? A brief case report in COVID-19 pandemic times. *Alzheimer's Dement*. 2021;13:e12166. https://doi.org/10.1002/dad2.12166