



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



ELSEVIER

Contents lists available at ScienceDirect

## Psychiatry Research

journal homepage: [www.elsevier.com/locate/psychres](http://www.elsevier.com/locate/psychres)

## Letter to the Editor

## COVID-19 paranoia in a patient suffering from schizophrenic psychosis – a case report



## 1. Introduction

The COVID-19 pandemic affects mental health, both in healthcare settings and broader society. Fear responses in both the uninfected and infected may reach psychopathological levels that require psychiatric interventions (Duan and Zhu, 2020), and physicians and mental health professionals may have particularly high need for psychological support in the case of development of stress-related disorders (Chen et al., 2020). An area of key concern is the potential of the psychological context of the pandemic to exacerbate existing psychiatric conditions and influence the manifestation of their symptomatology. Here we report the case of a patient with schizophrenia presenting with COVID-19-related delusions and hallucinations, illustrating the potential of COVID-19 to precipitate entry into a psychotic phase and impact symptom manifestation.

## 2. Case presentation

We report a 43-year-old, unmarried male patient who was brought to our emergency department by his father during the early phase of the COVID-19 crisis in Germany (March 17th 2020). His psychiatrist referred him after prescribing paliperidone depot Trevicta® (525 mg, dose increased from 350 mg). Admission to our hospital was deemed necessary because for approximately one week prior the patient had been hearing his neighbours' voices (both males and females) blaming him, as a former ambulanceman, for not taking sufficient care of his parents who could have died of a COVID-19. The voices also claimed that all of the neighbours could also have COVID-19 as a result of his negligence. Our patient recognized the voices as hallucinations which could be a sign of worsening of his paranoid psychosis, which had been first diagnosed in 2011. Nevertheless, obeying the voices he went to his parents' house in the middle of the night to check if they were alive, but ultimately decided not to enter the house. He also believed that he was being observed by cameras at his home and he personally expected to have immunity to COVID-19 after already being infected by a Chinese message through a WhatsApp group.

Physical examination revealed no pathological findings. Laboratory testing indicated slightly increased mean corpuscular hemoglobin (MCH) and liver enzymes aspartate aminotransferase (AST/GOT) and alanine aminotransferase (ALT/GPT), possibly as a result of alcohol use in the past or a medication side effect.

## 2.1. Psychiatric history

During two previous hospitalisations in 2011 and 2019 the patient had presented with similar symptoms, including voices commenting on his behavior and reporting being observed by cameras in our clinics, and he was diagnosed with acute polymorphic psychotic disorder (ICD-10: F23.0) and paranoid psychosis (ICD-10: F20.0), respectively. During

these previous episodes remission was achieved following treatment with olanzapine. Since 2019 he had been regularly taking paliperidone depot every three months (350 mg).

## 2.2. Psychopathology and psychometry

At admission the patient was experiencing acoustic hallucinations, was very tense and anxious with a slightly depressed mood, but was also relatively coherent. Positive and Negative Syndrome Scale (PANSS) assessment two days later confirmed medium symptom severity (total score: 75/210; positive scale: 18/49, negative scale: 19/49; general psychopathology scale: 38/112). The Wisconsin Card Sorting Test revealed deficits in the recognition of concepts, change of concepts and flexibility in attention.

## 2.3. Course of disease

During inpatient treatment in our department we initiated olanzapine 25 mg/day and lorazepam (up to 2 mg/day), and this in addition to the paliperidone depot, led to subsiding of symptoms: voice hearing was reported as much less frequent and more in the background before completely disappearing. The patient also reported that he no longer believed that his family and neighbours were infected, and this resulted in reductions of his anxiety and tension. The successful treatment of the COVID-19-related hallucinations leads us to speculate that a decline in paliperidone serum level towards the end of the three months treatment period may have contributed to the onset of the described symptoms.

## 3. Discussion and conclusions

This case report shows the impact of the COVID-19 crisis on the psychopathology of a patient with paranoid psychosis leading to the outbreak of a psychotic phase with paranoid-hallucinatory experiencing and unrealistic expectations and concerns. This is, to the best of our knowledge, the first report of a COVID-19-related paranoid processing in a psychosis patient. It is reasonable to expect that media coverage of exceptional circumstances will influence the content of delusional thoughts, especially in crises like infectious disease pandemics or after assassinations. However, the number of studies addressing such issues is very limited; one such study carried out during the 2009 swine influenza pandemic indicated that patients with schizophrenia and a high level of predicted fear tended to judge their own risk of infection as higher (Maguire et al., 2019a). An interesting aspect of the current case is that in a highly interconnected world, our patient assumed a Chinese WhatsApp message had infected him. Moreover, he was more concerned about others than himself, a manifestation possibly influenced by his former role as an ambulanceman. This observation may be in line with the previous reports that higher levels of concurrent anxiety in patients with schizophrenia correlated with lower

<https://doi.org/10.1016/j.psychres.2020.113001>

Received 30 March 2020; Received in revised form 9 April 2020; Accepted 9 April 2020

Available online 17 April 2020

0165-1781/ © 2020 Elsevier B.V. All rights reserved.

perception of personal risk of infection with swine flu, although the reason for this effect is unclear (Maguire et al., 2019a). Patients with schizophrenia have also been shown to be less willing to get vaccinated and to adhere to social distancing during an influenza pandemic (Maguire et al., 2019b). Our patient reported trying to spend more time at home because of COVID-19, but did not adopt other protective measures such as hand washing or wearing a face mask.

Overall, the current case report illustrates the potential for the psychological context of the COVID-19 emergency to influence emergence and manifestations of symptoms of psychosis, and indicates that measured, balanced and responsible reporting of the COVID-19 crisis in the media will be important to minimize the risk of overreactions in at risk persons and to avoid entry into psychotic episodes.

### Declarations

The reported patient agreed in the publication of this report. All steps were conducted in accordance with the regulations of our local university ethical committee (Ethikkommission an der Medizinischen Fakultät der Universität Rostock, St.-Georg-Str. 108, 18055 Rostock, Registriernummer A 2020-0077) and the Declaration of Helsinki.

### Funding

No funding was received for this work.

### Authors' contribution

All authors read and approved the final manuscript and contributed

equally to it.

### Declaration of Competing Interest

The authors declare that they have no competing interests.

### References

- Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L., He, L., Sheng, C., Cai, Y., Li, X., Wang, J., Zhang, Z., 2020. Mental health care for medical staff in China during the COVID-19 outbreak. *Lancet Psychiatry* 7 (4), e15–e16. [https://doi.org/10.1016/S2215-0366\(20\)30078-x](https://doi.org/10.1016/S2215-0366(20)30078-x).
- Duan, L., Zhu, G., 2020. Psychological interventions for people affected by the COVID-19 epidemic. *Lancet Psychiatry* 7 (4), 300–302. [https://doi.org/10.1016/S2215-0366\(20\)30073-0](https://doi.org/10.1016/S2215-0366(20)30073-0).
- Maguire, P.A., Reay, R.E., Looi, J.C., 2019a. A sense of dread: affect and risk perception in people with schizophrenia during an influenza pandemic. *Australas Psychiatry* 27 (5), 450–455. <https://doi.org/10.1177/1039856219839467>.
- Maguire, P.A., Reay, R.E., Looi, J.C., 2019b. Nothing to sneeze at - uptake of protective measures against an influenza pandemic by people with schizophrenia: willingness and perceived barriers. *Australas Psychiatry* 27 (2), 171–178. <https://doi.org/10.1177/1039856218815748>.

M. Fischer<sup>a,\*</sup>, A.N. Coogan<sup>b</sup>, F. Faltraco<sup>a</sup>, J. Thome<sup>a</sup>

<sup>a</sup> *Clinic and Policlinic for Psychiatry and Psychotherapy, University of Rostock, Rostock, Germany*

<sup>b</sup> *Department of Psychology, National University of Ireland Maynooth, Ireland*

*E-mail address: Matthias.Fischer@med.uni-rostock.de (M. Fischer).*

\* Corresponding author.