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.

Psychiatry Research 290 (2020) 113097

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Letter to the Editor

New-onset psychosis in COVID-19 pandemic: a case series in Madrid

Novel coronavirus pneumonia (NCP, also called COVID-19) emerged in December 2019 in Wuhan, China. This novel coronavirus (SARS-CoV-2) has caused a national outbreak of severe pneumonia in China, and rapidly spread around the world. Spain is one of the countries most affected by the COVID-19 pandemic, with more than 210.000 cases (218.011) and 25.428 deaths confirmed, May 7th 2020 (World Health Organization, 2020). SARS-CoV-2 is a beta coronavirus, as severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), which caused the 2003 and 2012 epidemics, respectively. It has been shown that SARS-CoV targets the Central Nervous System (CNS) causing neurological manifestations. Thus it could be expected that COVID-19 follows the same trend as these virus are almost taxonomically identical.

Although pathogenic mechanisms underlying CNS invasion remain unclear, haematogenous route seems to be the route for SARS-CoV-2 to reach the brain. However, other routes should be considered such as cribriform plate of the ethmoid bone in proximity to the olfactory bulb (Wu et al., 2020). Moreover, SARS-CoV-2 isolation from Cerebrospinal Fluid (CSF) suggests that virus can directly invade the nervous system and cause nerve damage

Recent papers have described acute CNS-associated symptoms in patients affected with SARS-CoV-2, specially neurological ones such as loss of smell and taste, strokes, delirium, viral encephalitis, toxic encephalopathy (Moriguchi et al., 2020) and acute hemorrhagic necrotizing encephalopathy (Poyiadji et al., 2020). From a psychiatric point of view, studies are focused on the influence of the coronavirus pandemic on health workers´ mental health, grief and emotional effects on general population. Unfortunately, less attention has been paid on the involvement of this virus in the development of new onset psychotic episodes (Valdés-Florido et al., 2020).

A number of COVID-19 patients with no previous psychiatric hx, who presented with psychotic symptoms were identified by the liaison and ED psychiatry departments at our hospital. Some of them presented with comorbid acute delirium. Psychotic symptoms were characterised by thoughts of reference and structured delusional beliefs as in primary psychosis conditions, such as schizophrenia. To note that those patients with comorbid acute delirium, presented ongoing psychotic symptoms once delirium was resolved.

It is a challenge to establish whether these cases are primary psychotic (stress triggers in people genetically predisposed), or secondary psychosis (treatment related, delirium or metabolic disturbances). In our experience, the differences were related to length of the episode and clinical features: subacute onset of psychotic symptoms (less than one week) and quick recovery (maximum 2 weeks) on low antipsychotic doses. We observed that all patients presented with thoughts of reference, however only those with acute delirium suffered hallucinations.

Given the growing incidence of these cases in our community, we consider that further studies based on psychiatric symptoms description, sociodemographic factors, physical symptoms and COVID-19 related severity should be conducted. Other biomarkers should be also collected (blood test, X-ray and Lumbar puncture) as well as closely patients follow up in order to clarify whether these presentations may suggest a new clinical entity.

Authors'contributions

DR and AJ designed the review, screened titles and abstracts, appraised the quality of included papers and drafted the manuscript.

CL and SA reviewed the study protocol and inclusion criteria and provided substantial input to the manuscript.

AP and VS and IM and JU read and screened articles for inclusion. All authors critically reviewed drafts and approved the final manuscript.

Declaration of Competing Interest

The authors declare that they have no competing interests.

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https://doi.org/10.1016/j.psychres.2020.113097

Received 6 May 2020; Received in revised form 10 May 2020; Accepted 11 May 2020

Available online 13 May 2020