

A Case of Acute-Onset Post-COVID Delusional Parasitosis: A Manifestation of a Possible Neuro-COVID or of COVID Infodemic?

To the Editor,

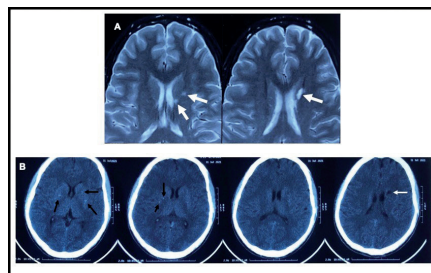
Delusional parasitosis or “Morgellons disease” is a psychotic disorder characterized by a false belief that worms have infested one’s skin. Usually, it is seen in late adulthood and more in females.¹ It has two forms—“primary,” where the presentation is in isolation, with no other underlying (or preceding) medical or psychiatric disorder, and “secondary,” where a preexisting medical (organic) or psychiatric disorder is present.² Among various organic pathologies, delusional parasitosis has been reported to be secondary to viral infections (HIV, syphilis) and cerebrovascular accidents.² An “infodemic,” defined as “too much information including false or misleading information in digital and physical environments during a disease outbreak”³ because of a “plethora of misinformation, rumour and conspiracy theories circulating every day,”⁴ is likely to enhance the proneness to delusions.⁵ We report a case of an acute-onset post-COVID delusional parasitosis in a young male with basal ganglia pathology with delusional themes related to the COVID-19 infodemic.

Case Report

Mr S, a 25-year-old, was referred from the post-COVID clinic to the psychiatry outpatient department with alleged complaints of worms having infested his whole body for about three weeks. One and a half months back, he had tested positive for COVID-19. Within two weeks, he recovered with supportive symptomatic treatment and home isolation (no steroids were given), but joint pains and cough persisted, for which a course of Tab. Azithromycin 500 mg was prescribed. The next day, that is, just after the ingestion of the first dose, he felt an unusual sensation in his stomach followed by quick disappearance of joint pains. Subsequently, he developed a crawling sensation under his eyes and scalp and started feeling worms crawling all over his body, which he calls a “black worm.” They are in groups of tens at different regions

of the body. (Detailed history and Mental Status Examination (MSE) in online-only supplementary file.) There was no past/family history of psychiatric illness.

There was nothing significant on a detailed physical and neurological examination. On MSE, he was dysphoric and restless. He was preoccupied with the information related to COVID-19 and black fungus infection. He had a somatic delusion that the worms have dislodged clots in various body parts. He attributed the infestation to the antibiotic use. His conviction in the delusion was high. The phenomenon of “Morgellons” was established. His computed tomography scan and magnetic resonance imaging brain revealed bilateral basal ganglia calcification and a subacute infarct in the head of the left caudate nucleus (**Figure 1**). He was provisionally diagnosed as other acute predominantly delusional psychotic disorder (F23.3), with a differential diagnosis of organic delusional disorder (Fo6.2). The basal ganglia calcifications were considered chronic and not related to COVID. However, the possibility of the subacute infarct being a sequela to COVID could not be ruled out. Thorough workup for connective tissue disorders and calcium/phosphorous metabolism disorders did not reveal anything significant. On the PSYchotic symptom RATING Scale-Belief Scoring Criteria, he scored 18/24. He was started on T. Risperidone 3 mg/day. On the two-week follow-up postdischarge, although compliant to medications, he was reluctant to continue psychiatry treatment. He still scored 18/24 on PSYchotic symptom RATING Scale-Belief Scoring Criteria. His dose of risperidone was hiked to 4 mg. Further follow-ups are awaited. Written informed consent was obtained from the patient for reporting this case.



Discussion

COVID-19 presenting with neurological manifestations is called “Neuro-COVID.”⁶ Small vessel, subcortical infarcts represent its second stage. With a subacute infarct

detected in the basal ganglia, which was suspected to be a COVID sequela, we hypothesize that our patient’s delusions are the manifestation of a possible neuro-COVID. Mental status involvement as a part of the neurological manifestation of COVID-19, especially basal ganglia pathology, has also been reported.⁷ Specifically, basal ganglia aberrations, both structural and functional, have been significantly associated with secondary delusional parasitosis, albeit not in the context of COVID-19. Specifically, among striatal structures, putamen has been implicated in delusional parasitosis associated with cerebrovascular accidents (CVA), in contrast to our case where we found a structural lesion in the caudate.⁸ Moreover, there have been reports where COVID-19 flared up an otherwise asymptomatic basal ganglia calcification to cause acute neurological sequelae.⁹ This makes the detection of incidental chronic bilateral basal ganglia calcifications in our case significant too.

Several mechanisms have been proposed through which COVID can cause psychotic symptoms, including neurotropism and the neuroinvasive property of coronavirus and peripheral activation of proinflammatory cytokines leading to neuroinflammation and increased blood-brain barrier permeability.¹⁰

On the other hand, among cases of primary psychotic disorders, the COVID-infodemic has led to a surge in delusions whose content has been themed around the COVID and its sequelae and the whole pandemic in general, including delusional infestation.^{11,12} COVID- or pandemic-related delusional themes that predominated in the index case were antibiotic misuse leading to secondary infections (especially black fungus), blood clots causing symptoms throughout the body, and clot dislodgment. From a descriptive psychopathological perspective, we assume that the emergence of the theme “black worm” is a “verbal paraphasia” instead of the intended “black fungus.” These points represent information processing deficits underlying the formation of delusions.¹³ The context of infodemic and subsequent infomania also seem to contribute to deficient information processing.

Our case represents a conjunction of sequelae following COVID on the organic brain systems as well as the psyche in the emergence of psychosis. Our report also highlights that delusional parasitosis

presenting in the context of COVID seems to underlie a possible coexistence of both primary and secondary (organic) forms of delusional parasitosis.¹⁴ Therefore, a proper detailed neurological and psychological workup is necessary in all such cases.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.


Declaration of Conflicting Interests

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Implementation of MHCA 2017 and Formation of Mental Health Review Boards: Current Status of IPS South Zone Territory

Dear Sir,

The Mental Health Care Act, 2017¹ is amongst the most progressive legislations espousing a rights-based approach to mental health care.² The vehicles of MHCA include the Mental

Health Review Board (MHRB), State Mental Health Authority (SMHA), and Central Mental Health Authority (CMHA).

The SMHA functions at the state level, and MHRB has been conceptualized to function at the district level, and the latter’s jurisdiction may be extended to a few districts.³ The CMHA has been formed vide notification No. V.15011/09/2017-PH-I and is tasked with registering all the mental health establishments (MHEs) under the central government.³ Implementation of the MHCA 2017, notifications of rules

thereupon, and formation of MHRB were recently discussed in the Rajya Sabha.⁴

Current Status of SHMA and MHRB in the South Indian Territory

We examined the notifications of MHCA rules and the formation of SMHA and MHRB across the Indian Psychiatric Society South Zone territories.⁵ A rapid review of pertinent central and state government notifications and gazettes was