

Available online at [www.sciencerepository.org](http://www.sciencerepository.org)

Science Repository



## Letter to the Editor

# Transmission of COVID-19 Virus in the Presence of Neurologic Manifestations

Hamidreza Famitafreshi and Morteza Karimian\*

Physiology Department, Tehran University of Medical Sciences, Tehran, Iran

### ARTICLE INFO

#### Article history:

Received: 7 December, 2020

Accepted: 12 January, 2021

Published: 29 January, 2021

#### Keywords:

COVID-19  
transmission  
symptoms  
neurologic  
brain

### ABSTRACT

COVID-19 is a viral disease with a different set of manifestations. However, all clinical manifestations are not occurring at the same time and some patients present the disease with an isolated or even without any specific symptoms. This disease besides neurologic symptoms in rare cases even presents itself with other symptoms such as cardiac failure. In this case, a health care provider may not aware of this situation. In these situations, the transmission of the virus to individuals remains and people may not be aware of the high-risk situation. It is suggested to be aware of different clinical manifestations of COVID-19 disease and preventive strategies keep for all patients.

© 2020 Morteza Karimian. Hosting by Science Repository. All rights reserved

COVID-19 like any other viruses will not only respiratory system but also may affect other parts of body. ARDS (Acute Respiratory Distress Syndrome) the ominous manifestation of this virus is not the only cause of death by this virus and to date other lethal presentations have been identified including gastrointestinal and neurologic complications [1, 2]. The neurologic presentation of COVID-19 although are rare but are of great importance for providing appropriate treatment [3]. Usually treatment is provided for ARDS and there will be no prediction about neurologic manifestations.

Neurologic manifestations of this virus based on recent reports have diverse manifestations such as syncope, Guillain Barre Syndrome, polyneuropathy, stroke, acute disseminated encephalitis and seizure [4]. Also, this virus may involve respiratory center that may alleviate the respiration. There are cases of COVID-19 with nervous system manifestations present themselves without affecting any other organs. Patients usually have symptoms in body organs such as reduced CSF pressure and other symptoms but are not specific and sensitive for COVID-19 as described [5, 6]. The mechanisms behind these symptoms are not fully understood and usually patients with these symptoms present themselves to clinicians without respiratory symptoms.

The importance of this issue is the fact that both patients and clinicians are not aware of the fact that COVID-19 present with neurologic symptoms may infect doctors and other emergency staffs. So, it is suggested patients present themselves with acute neurologic symptoms should not just treated as isolated symptoms of neurologic diseases and also should be investigated for COVID-19. Recent studies suggest COVID-19 in brain has not been well documented and this emphasizes the role of appropriate usage of preventive policies. Brain and testis are immune privileged organs that easily store any shape of viruses and therefore store virus for a long time even after recovery. Neurologic symptoms may suggest long storage of virus may offer different forms of virus and therefore control of it may be difficult.

### Conflicts of Interest

None.

### REFERENCES

1. Adhikari SP, Meng S, Wu YJ, Mao YP, Ye RX et al. (2020) Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: a scoping review. *Infect Dis Poverty* 9: 29. [[Crossref](#)]

\*Correspondence to: Morteza Karimian, Physiology Department, Tehran University of Medical Sciences, Tehran, Iran; Tel: 982166419484; Fax: 982166419484; E-mail: [Karimian@tums.ac.ir](mailto:Karimian@tums.ac.ir)

2. Gu J, Han B, Wang J (2020) COVID-19: Gastrointestinal Manifestations and Potential Fecal-Oral Transmission. *Gastroenterology* 158: 1518-1519. [[Crossref](#)]
3. Pilotto A, Odolini S, Masciocchi S, Comelli A, Volonghi I et al. (2020) Steroid-Responsive Encephalitis in Coronavirus Disease 2019. *Ann Neurol* 88: 423-427. [[Crossref](#)]
4. Wu Y, Xu X, Chen Z, Duan J, Hashimoto K et al. (2020) Nervous system involvement after infection with COVID-19 and other coronaviruses. *Brain Behav Immun* 87: 18-22. [[Crossref](#)]
5. Al Saiegh F, Ghosh R, Leibold A, Avery MB, Schmidt RF et al. (2020) Status of SARS-CoV-2 in cerebrospinal fluid of patients with COVID-19 and stroke. *J Neurol Neurosurg Psychiatry* 91: 846-848. [[Crossref](#)]
6. Ye M, Ren Y, Lv T (2020) Encephalitis as a clinical manifestation of COVID-19. *Brain Behav Immun* 88: 945-946. [[Crossref](#)]