



Letter to the Editor

Letter to the Editor: Transneural transmission in COVID-19 without a positive nasopharyngeal swab

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Received : 05 June 2020

Accepted : 28 July 2020

Published : 12 September 2020

DOI

10.25259/SNI_335_2020

Quick Response Code:



We read with great interest the article by Bamps *et al.*^[1] on the need of urgent and semi-emergent neurosurgeries in the present scenario. However, we sincerely feel that all patients presenting in the outpatients and emergency be handled as a positive case. There have been reported instances of a positive CSF for COVID in the absence of a positive nasopharyngeal swab.^[2]

1. Brain infection in COVID-19 patients is being seriously considered recently, owing to multiple reports of stroke, epilepsy, and encephalitis. ACE-2 expression in glia and neurons of brain is low, but well documented. SARS-CoV-2 invading high ACE-2 expressing non-neuronal olfactory epithelial cells is one such possibility and then passing to low ACE-2 expressing mature olfactory receptor neurons to be finally transported along olfactory axons to the brain. The lateral stria of olfactory tract carries axons to the primary olfactory cortex, located in the uncus of the temporal lobe. This can be argued as an important reason for the inflammation in medial temporal cortex and hippocampus in such patients.
2. Although the first reported case of meningitis/encephalitis associated with CoV2 reports the use of antiviral drug laninamivir on the 2nd day with a negative test,^[2] it is very highly likely that the test missed the low viral load on the 2nd day, because when the patient was admitted owing to loss of consciousness, there was small ground-glass opacity on the right superior lobe and both sides of inferior lobe of the lung, implying toward the infection earlier. It can be hypothesized that there is a small category of COVID patients, in whom the respiratory manifestation of Cov-2 is a minimum, concentrating mainly toward olfactory epithelium for viral transneural transmission.

Nevertheless, a more vigilant eye is required in this pandemic disease to have a better understanding of this entity.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

Financial support and sponsorship

Nil.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Bamps S, Roosen G, Vanvolsem S, Wissels M, Put E, Duyvendak W, *et al.* Even with COVID-19 neurosurgeons should still perform necessary urgent/emergent neurosurgery

to avoid major permanent neurological deficits. *Surg Neurol Int* 2020;11:75.

2. Moriguchi T, Harii N, Goto J, Harada D, Sugawara H, Takamino J, *et al.* A first case of meningitis/encephalitis associated with SARS-Coronavirus-2. *Int J Infect Dis* 2020;94:55-8.

How to cite this article: Ansari A, Riyaz S. Letter to the Editor: Transneural transmission in COVID-19 without a positive nasopharyngeal swab. *Surg Neurol Int* 2020;11:284.