

LETTER TO THE EDITOR

Bladder and bowel incontinence in COVID-19

To the Editor,

Coronavirus 2019 (COVID-19) or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an acute respiratory disease that has infected more than 99 million people and killed more than two million people as of January 26, 2021.¹ COVID-19 has various manifestations such as respiratory, cardiovascular, gastrointestinal, renal, neurological, and so forth.

With the increase in research about COVID-19, various neurological complications have been reported in these patients. Some of the neurological complications that have been reported in COVID-19 patients include headache, anosmia, hyposmia, dysgeusia, impaired consciousness, seizures, encephalitis, demyelinating neuropathy.^{2,3}

SARS-CoV-2 can directly or indirectly damage neurons by invading the central nervous system and peripheral nervous system. The pro-inflammatory "cytokine storm" caused by SARS-CoV-2 infection can cause neuroinflammation, which eventually leads to neuron demyelination.⁴ It has already been proven that some viral infections cause various demyelinating diseases in animals and humans.⁵ Demyelinating neuropathy is one of the COVID-19 neurological complications. Neuron demyelination can cause several disorders. Some of them include diplopia, ataxia, clonus, dysarthria, paraesthesia in hands and feet, hemiparesis, incoordination, weakness, unsteadiness, and hearing loss.^{6,7} Demyelinating disorders have a wide range and are not limited to the cases mentioned. For example, acute demyelinating inflammatory polyneuropathy, the most common type of Guillain-Barré syndrome, has been reported as a complication in patients with COVID-19.⁸

To the best of our knowledge, inflammation, and demyelination in the pudendal nerve can lead to bladder and bowel incontinence.^{9,10} Pudendal neuropathy was reported in some viral infections such as HIV and herpes zoster, and multiple sclerosis.¹¹ Due to innervation of anal and urethral sphincter by the pudendal nerve, it seems COVID-19 by inflammation and demyelination in the pudendal nerve, causes bladder and bowel incontinence.

Therefore, these COVID-19 probable neurological complications should be considered important because they can have diagnostic value. Hence, medical staff should consider the possibility of COVID-19 in a suspected patient if they observe these symptoms, and also, people should be aware of COVID-19 when faced with these symptoms. Awareness of the broader symptoms of the disease can lead to a faster therapeutic procedure and consequently reduce the mortality rate.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

PEER REVIEW

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REFERENCES

1. WHO Coronavirus Disease (COVID-19) Dashboard. 2021. https://covid19.who.int/?gclid=CjwKCAiAu8SABhAxEiwAsodSZDhAqDOVA_iVOH-3aw1z2YRKnD3UpF6iViNcdn_lpxXJclXDAiVefBoC7ysQAvD_BwE. Accessed January 27, 2021.
2. Montalvan V, Lee J, Bueso T, De Toledo J, Rivas K. Neurological manifestations of COVID-19 and other coronavirus infections: a systematic review. *Clin Neurol Neurosurg*. 2020;194:105921.
3. Nepal G, Rehrig JH, Shrestha GS, et al. Neurological manifestations of COVID-19: a systematic review. *Crit Care*. 2020;24(1):421.
4. Wang F, Kream RM, Stefano GB. Long-Term Respiratory and Neurological Sequelae of COVID-19. *Med Sci Monit Int Med J Exp Clin Res*. 2020;26:e928996-1-e928996-10.
5. Fazakerley JK, Walker R. Virus Demyelination. *J Neurovirol*. 2003;9(2):148-164. <https://doi.org/10.1080/13550280390194046>
6. Ellul MA, Benjamin L, Singh B, et al. Neurological associations of COVID-19. *Lancet Neurol*. 2020;19(9):767-783.
7. Preziosi G, Gordon-Dixon A, Emmanuel A. Neurogenic bowel dysfunction in patients with multiple sclerosis: prevalence, impact, and management strategies. *Degener Neurol Neuromuscul Dis*. 2018;8:79-90.

8. Scheidl E, Canseco DD, Hadji-Naumov A, Bereznai B. Guillain-Barré syndrome during SARS-CoV-2 pandemic: a case report and review of recent literature. *J Peripher Nerv Syst.* 2020 Jun;25(2):204-207.
9. Mirza AB, Akhbari M, Lavrador JP, Maratos EC. Atypical cauda equina syndrome with lower limb clonus: a literature review and case report. *World Neurosurg.* 2020;134:507-509.
10. Zhu L, Hai N, Lang J-H, Yu S-Y, Li B, Wong F. Value of the pudendal nerves terminal motor latency measurements in the diagnosis of occult stress urinary incontinence. *Chin Med J.* 2011;124(23):4046-4049.
11. Kaur J, Singh P. Pudendal Nerve Entrapment Syndrome. Treasure Island, FL; 2020.