

Vzv Encephalitis in an Initial Case of Covid-19 Meningo-Encephalitis: A Case Report

K.A.D.C.K. Athukorala^{1*}, S.T. Balasinghe², D.M.S.L. Dissanayake³, S.M. Hettiarachchi⁴, S.W.D.E. Abeykoon⁵, R.B.D. Madhusanka⁶, D.W.A. Shantha⁷, H.D.W.S. Kudagammana⁸, M.A.R.V. Muthugala⁹, S.A.M. Kularatne¹⁰, L.P.M.M.K. Pathirage¹¹

¹⁻⁴*Faculty of Medicine, University of Peradeniya*

⁵*Department of Family Medicine, Faculty of Medicine, University of Peradeniya*

⁶*District General Hospital, Matale*

⁸*Department of Microbiology, Faculty of Medicine, University of Peradeniya*

⁹*National Hospital, Kandy*

^{7, 10, 11}*Department of Medicine, Faculty of Medicine, University of Peradeniya*

* *chandikakavindaathukorala@gmail.com*

Introduction: SARS-CoV-2 can cause neurological sequelae such as encephalitis, meningitis, and Guillain-Barre-syndrome in addition to primary respiratory infection. Reactivation of the varicella-zoster virus, associated with COVID-19, is notable and limited to the skin. In this case, the first example of post-COVID-19 meningoencephalitis is studied for VZV reactivation as VZV encephalitis. Case: A 48-year-old man with well-controlled diabetes and a past history of varicella infection presented with symptoms involving chills, fever, and breathing difficulties. He underwent treatment for COVID-19 pneumonia after testing positive for SARS-CoV-2. He was readmitted same day after being discharged because of severe headache, photophobia, neck pain and irritability. The suspicion of meningitis prompted additional diagnostic procedures. CSF analysis revealed elevated lymphocyte counts and protein levels, which indicated viral meningitis. Furthermore, MRI scan of brain excluded cerebral venous thrombosis. COVID-19 PCR test was positive in CSF as well as serum. Additional testing on the CSF sample confirmed positive PCR for VZV encephalitis as a co-infection and acyclovir was prescribed. Discussion: The complexity of COVID-19's impact on the neurological system, including the possibility of viral neuroinvasion, is discussed in this case study. The initial signs and symptoms pointed to COVID-19 meningoencephalitis, but were later complicated by possible VZV reactivation vs co-infection. Even though the patient's symptoms improved after receiving IV steroids, VZV encephalitis appears to be a complicating factor based on the patient's deteriorating symptoms and favourable reaction to acyclovir. The reactivation of VZV may have been contributed to by further immunosuppression brought on by COVID-19, diabetes, steroids or other factors. Conclusion: The reactivation of VZV as VZV encephalitis in an initial case of COVID-19 meningoencephalitis is the first case recorded so far. Thus, the lack of evidence for clinical decision making, the diagnosis and management of this patient was a challenge.

Keywords: VZV, Reactivation, COVID-19, VZV Encephalitis