



Correspondence



Reply: Diagnose Aseptic Meningitis Caused by SARS-CoV-2 Vaccination Only After Ruling Out All Possible Differentials

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► See the letter “Diagnose Aseptic Meningitis Caused by SARS-CoV-2 Vaccination Only After Ruling Out All Possible Differentials” in volume 54 on page 185.

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No conflict of interest.

Dear Editor:

We appreciate the insightful comments made by Finsterer to the recently published case report in *Infection & Chemotherapy* [1]. Finsterer recently published correspondence for an accurate diagnosis of aseptic meningitis caused by coronavirus disease 2019 vaccination [2].

Our patient is a healthy male. He doesn't have any underlying medical problems. He had no history of overseas travel, exposure to wild and domestic animals, dairy products, and taking medicine. When he was admitted to the hospital, he had no skin, soft tissue, bone, and joint problems. His cerebrospinal fluid (CSF) analysis showed lymphocytic pleocytosis. He was treated with methylprednisolone for only three days. He has fully recovered and has had regular checkups for over a year without any medical problems.

Finsterer pointed out that the patient had been appropriately excluded from various differential causes of aseptic meningitis [2]. The serologic tests for scrub typhus, leptospirosis, and Korean hemorrhagic fever renal syndrome were all negative. As for the other diseases, there was no history or accompanying symptoms that could be suspected in the patient's clinical symptoms, so no specific tests were performed. Our patient also had a normal range of erythrocyte sedimentation rate and C-reactive protein tests. Cases of Japanese encephalitis and neurobrucellosis in Korea are very rare. In particular, in the case of Jeju Island, where the patient resides, there has never been a single case when looking at national statistics for the past 10 years [3].

Cerebral venous sinus thrombosis (CVST) was mainly caused by after the ChAdOx1 nCoV-19 vaccine (AstraZeneca Inc., Cambridge, UK), accompanied by thrombocytopenia, and positive D-dimer [4]. However, our patient received the BNT2162b2 mRNA-based vaccine (Pfizer Inc., New York, NY, USA) and had a normal platelet count and negative D-dimer. Brain magnetic resonance imaging (MRI) was also normal.

Finsterer's opinion was that our study was limited because we did not perform the PCR test for SARS-CoV-2 in CSF. A systemic review data suggested that about 20% of patients had negative nasopharyngeal swabs despite positive CSF samples [5]. However, PCR test

through CSF was impossible in our hospital. Instead, PCR tests of nasopharyngeal swabs were performed twice with an interval of two days and were negative. Aseptic meningitis associated with autoimmune causes has to predominate clinical features such as seizures, language, and autonomic dysfunctions, movement disorder, and psychoses [6]. It has abnormal image findings of about 90% in enhanced brain MRI [7]. Our patient did not have any such kinds of symptoms and had normal findings at enhanced brain MRI.

Finsterer reported complications about the diagnosis of SARS-CoV-2 vaccination associated with aseptic meningitis [8]. It is ideal for a patient to visit the clinic and undergo an accurate examination and exclusion of all suspected diseases. It is also important to exclude to some extent the patient history or physical examination and to ensure that the most likely disease is accessed quickly so that appropriate treatment is not delayed. The clinician should perform the best possible and prompt diagnosis, following the regional epidemiology, the availability of tests, cost, and time period for a specific disease in the country and hospitals.

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