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Letter to the Editor

Patients with SARS-CoV-2-related Vogt-Koyanagi-Harada Syndrome Require a Comprehensive Neurological Examination

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We read with interest the article by Zou *et al*. about a 35-year-old woman with incomplete Vogt-Koyanagi-Harada (VKH) syndrome, which developed two weeks after a SARS-CoV-2 infection [1]. Ophthalmological examination revealed blurred vision on both sides due to a granulomatous panuveitis with bullous serous, retinal detachment [1]. The patient benefited from high--dose glucocorticoids, which significantly improved visual acuity at the two-week follow-up examination [1]. The study is impressive, but some points require further discussion.

The first point is that the SARS-CoV-2 infection was also complicated by headache, but no investigation was initiated for this symptom [1]. Because headaches are a common complication of SARS-CoV-2 infection, they may not have been taken seriously enough to prompt further investigation. However, headaches may be due to meningitis, encephalitis, intracerebral bleeding, subarachnoid bleeding, reversible cerebral vasoconstriction syndrome (RCVS), vasculitis or venous sinus thrombosis, all of which are possible complications of SARS-CoV-2 infections [2]. Therefore, it would have been mandatory to examine the patient using multimodal magnetic resonance imaging (MRI) with contrast medium and to perform magnetic resonance angiography (MRA). What were the results of the diffusion-weighted imaging (DWI) modality? Headache may also have been a classic manifestation of the prodromal phase of VKH syndrome [3]. These different causes must be ruled out before headaches can be interpreted as a nonspecific complication of the viral infection.

The second point is that the patient did not undergo lumbar puncture and examination of the cerebrospinal fluid (CSF). Since VKH syndrome is typically associated with or complicated by pleocytosis (lymphocytes, monocytes), it would have been mandatory to test the patient's CSF for SARS-CoV-2 RNA, pleocytosis, cytokines, chemokines, 14-3-3, neurofilament, tau protein, and glial factors.

A third point relates to the introduction, which states that the ophthalmological manifestations of SARS-CoV-2 manifestations include conjunctivitis, retinal vein occlusion, and optic neuritis. However, the spectrum of SARS-CoV-2 infection-related ophthalmologic involvement is much broader and also includes episcleritis, eyelid edema, epiphora, AION, PION, vitritis, retinitis, choroiditis and retinal artery occlusion [4].

A fourth point is that the genetic background has not been clarified. Since VKH syndrome is an autoimmune disease in genetically susceptible individuals [3], it would have been useful to examine the index patient for the presence of the HLA-DRB1*04;05 and HLA-DBQ1*04:01 alleles.

A fifth point is that the statement that SARS-CoV-2 affects not only the lungs but also other organs such as the brain, heart, gastrointestinal tract, immune system, and eyes is incomplete. SARS-CoV-2 can affect all organs, with the lungs and brain predominating. In this context, it is important to mention that SARS-CoV-2 may not always initially manifest in the lungs but in any organ [5].

In conclusion, the interesting study has limitations that put the results and their interpretation into perspective. Removing these limitations could strengthen the conclusions and support the study's message. Patients with VKH syndrome require an extensive neurological evaluation.

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