

Response to comments on: Neuro-ophthalmic presentation of COVID-19 disease: A case report

Dear Editor,

I would like to thank Dr. J Finsterier for expressing interest in our case report.^[1,2] We would like to clarify the abovementioned comments about the report.^[1,2]

The concern regarding the pathophysiology of hemorrhage in pituitary macroadenoma - Alteration of vasoregulation in viremia, due to attack of SARS-CoV2 viruses at ACE2 receptors has already been described in detail in the manuscript.^[1] The study pointed out by authors Syahrul S *et al.* published in Jan 2021 also describes multiple possible pathophysiologies behind hemorrhagic events in COVID-19, which is mainly associated with the elevation of Angiotensin II levels, which is an event subsequent to SARS-CoV-2 occupation of the ACE2 receptor.^[3,4] This recent study also points out cytokine storm-related activity affecting extracellular matrix and cell junctions as possible factors for hemorrhage. However, we want to make it clear that apoplexy can be due to all explained reasons in COVID-19; also, inflammation itself can act as a precipitating factor for apoplexy in this case.

MRI modalities as T1 and T2 were provided only for images given. However, we would like to clarify that the following MRI sequences were obtained using 1.5 Tesla scanner-AxFLAIR, Ax-T2, AxT1, DWI, Ax GRE, Sag T1, Cor T2, T1 +cAx, Cor, and sag MRI. Radiologists reported normal cerebral parenchyma and vascular system with normal T2 flow voids. DWI showed no restriction of diffusion. In addition, detailed CNS evaluation was done by neurologists. Hence, further imaging modalities were not ordered.

The use of steroids in COVID-19 infection, its duration, and its effects are being discussed. A recent study published in Lancet warrants the use of dexamethasone in the early 10 days of disease to prevent cytokine storm.^[5] The RECOVERY trial provides evidence that treatment with dexamethasone at a dose of 6 mg once daily for up to 10 days reduces 28-day mortality in patients with COVID-19.^[6] Glucocorticoids are warranted for use in early course of the disease; Our patient's vision and general status improved with steroids. In our case, after the 3-day course of IVMP for apoplexy, the patient was put on oral prednisolone like any other COVID-19 patient and then stopped. Also to mention here, steroids were given as per the advice of physicians treating the COVID-19 pandemic.

The patient presented to us at the peak of the pandemic, when basic examination and other routine protocols were hampered. The patient's general condition was not fit for trans-sphenoidal surgical resection. The patient could have been taken for surgery only after RT-PCR became negative. But unfortunately, his repeat RT-PCR was positive twice. So, surgery was deferred. At the time of submitting this manuscript, the patient was not operated on. Hence, follow-up details were not given. The patient underwent surgery in early December and is now doing well with 3/60 vision in the right eye and 4/60 vision in the left eye. As the patient stays in another town, he was followed up on telephonic conversation in view of the ongoing pandemic and his vision was recorded by

an local optician. Decreased vision can be explained by the long-standing effect of the tumor on optic chiasma.

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Conflicts of interest

There are no conflicts of interest.

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