

## Acute Vision Loss in a Patient with COVID-19

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### ABSTRACT

A woman in her 50s presented to the hospital with fever, chills and cough one week after she tested positive for SARS-CoV2. She reported acute, painless right eye monocular visual disturbance, described as a white cloud and blurriness involving most of her right eye, sparing the superior nasal aspect. Other neurological symptoms included dysgeusia, dysosmia, right ear hypoacusis, and subjective right hemiparesis. On the day of admission, her neurological exam was remarkable for severe right eye vision loss. She was unable to visualize or count fingers in the right temporal field and inferior nasal field. Relative afferent pupillary defect was absent. There was no tenderness to the palpation of the temporal area. The following day, she reported fifty percent improvement in her vision. Visual acuity was 20/70. The dilated fundoscopic exam was normal. There was no evidence of optic disc edema, Hollenhorst plaque, retinal whitening, or hemorrhages. Initial MRI of the brain only showed partially empty sella turcica. MRI of the orbits, face, and neck with and without gadolinium revealed no area of abnormal enhancement. CT Angiography showed no significant carotid disease. Her vision spontaneously improved during her hospitalization, and she was discharged home. Given her normal ophthalmologic exam, Posterior Ischemic Optic Neuropathy (PION) was more likely. The capillary plexuses supplying the posterior part of the optic nerve are vulnerable to hypoperfusion and ischemia. Our patient likely had non-arteritic PION due to small vessel disease that is usually linked to systemic illness. Our patient's symptoms were early in the course of her illness and could be useful in triaging patients. A thorough neurologic exam is essential in all patients diagnosed with COVID-19. This case illuminates a broader spectrum of COVID-19-related symptomatology and emphasizes the need for clinicians to be aware of the various clinical manifestations associated with this infection.

**Keywords:** Vision loss, SARS-CoV2, COVID-19, Neurologic, Ophthalmology

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