

## Central retinal artery occlusion in COVID-19

Dear Editor,

We read with interest the review by Sen *et al.* titled "COVID-19 and Eye: A Review of Ophthalmic Manifestations of COVID-19".<sup>[1]</sup> We are particularly interested in the central retinal artery occlusion (CRAO) part, as our Hyperbaric Oxygen therapy for central Retinal Artery occlusion (HORA) study team provides round-the-clock hyperbaric oxygen therapy (HBOT) for CRAO cases even during the coronavirus disease 2019 (COVID-19) pandemic.<sup>[2]</sup>

COVID-19-related CRAO is postulated to be a result of predisposition to arterial thrombosis in patients with the novel coronavirus infection. Given the arterial thrombosis is systemic, these patients might have associated cerebrovascular thrombotic stroke. As an update, bilateral COVID-19-related CRAO cases were reported.<sup>[3]</sup> By reviewing the literature, we can actually classify the COVID-19-related CRAO cases into two groups according to the presence of concomitant stroke.<sup>[4,5]</sup> The case reports of Acharya *et al.* and Dumitrascu *et al.* mentioned in the original review,<sup>[1]</sup> together with the bilateral CRAO cases

of Bapaye *et al.*, were without any carotid or cerebrovascular thrombosis on radiological imaging. In contrast, Patients 10 and 8, respectively, in the Alam *et al.*<sup>[4]</sup> and Sweid *et al.*<sup>[5]</sup> case series got stroke in the territory of internal carotid artery supply.

Although CRAO is hypothesized to correlate with the COVID-19 infection, CRAO is a rare ocular disease to be investigated. Here, we present our HBOT treatment data on the incidence of COVID-19 among all acute CRAO patients in our territory-wide referral center. Since the time COVID-19 was declared as a pandemic, there were 28 acute CRAO patients in Hong Kong by the mid of June 2021. The average age was 68.5 years old (range 27–88), and 15 of them were males. None of them got severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) detected on reverse transcription polymerase chain reaction by the validated Xpert Xpress SARS-CoV-2 assay. At their last follow-up, mean 8.2 ± 4.8 months (range 1–15), none got COVID-19 infection despite our locality experienced the fourth wave of COVID-19 attack.

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### Conflicts of interest

There are no conflicts of interest.

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