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## Seeking clarity on retinal findings in patients with COVID-19

Paula M Marinho and colleagues<sup>1</sup> described their retinal and optical coherence tomography findings from 12 adults with recent onset of COVID-19 symptoms. Infection with severe acute respiratory syndrome coronavirus 2 has been increasingly linked to systemic damage beyond that of the respiratory system.<sup>2</sup> Therefore, identifying additional sites affected by COVID-19 is crucial. Ocular surface abnormalities, including conjunctivitis,<sup>3</sup> are well established manifestations of COVID-19. Marinho and colleagues<sup>1</sup> bring attention to the possibility of retinal involvement in COVID-19. As noted by the authors,<sup>1</sup> the observed retinal findings were subtle. Furthermore, these findings are non-specific and are not expected to have visual consequences for patients.

In this Correspondence,<sup>1</sup> and in future reports, several important details will be crucial in facilitating scientific interpretation and allowing a fuller understanding of the possible association between COVID-19 and retinal findings. Investigators should clearly provide the overall patient sample size. Knowing the total number of adults examined by Marinho and colleagues would be helpful to gauge the prevalence of retinal abnormalities. Describing comorbidities is essential, especially hypertension and diabetes, both of which are commonly associated with the reported retinal findings of microhaemorrhages and cotton wool spots.<sup>4</sup> Even in the absence of comorbidities, further investigation will be needed regarding the basis of the retinal findings and whether these findings reflect more than a systemic inflammatory state. It will be of great interest that future studies provide more robust retinal findings reminiscent of research on non-human

coronaviruses,<sup>5</sup> in which retinal abnormalities following infection by select animal coronaviruses reflect a local retinal vasculitis and even viral infection of retinal cells.

I declare no competing interests.

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