


Ocular Symptoms in Long COVID: A Cross-Sectional Study [Letter]

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Dear editor

It was with great interest that I read the recent article by Kaleem et al¹ published in *Clinical Ophthalmology*, entitled “Ocular Symptoms in Long COVID: A Cross-Sectional Study”. Based on the LISTEN study, the authors identified an important yet often overlooked clinical issue: the high prevalence of ocular symptoms (up to 57%) among patients with Long COVID. The study also recognized a severe clinical phenotype characterized by the frequent co-occurrence of ocular symptoms with systemic conditions such as postural orthostatic tachycardia syndrome (POTS) and myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). While Kaleem et al importantly document high rates of ocular symptoms in Long COVID, their findings are limited by a composite endpoint, potential screen-time confounding, and an unaddressed sex skew—issues I will argue constrain clinical interpretation and require targeted follow-up.

As a primary concern, the use of a composite ocular endpoint, while justifiable in self-reported survey data, may obscure distinct pathophysiological mechanisms. The authors grouped blurred vision, dry eyes, and floaters/flashes into a single category. However, dry eyes and blurred vision frequently stem from ocular surface inflammation or autonomic dysregulation—which strongly aligns with the observed new-onset POTS in this study population, as previous studies have established that dry eye syndrome and sicca complex are highly prevalent in POTS patients.² Conversely, symptoms like floaters or flashes of light typically indicate vitreoretinal changes or microvascular endothelial dysfunction. We suggest incorporating objective ophthalmic evaluations, such as slit-lamp examinations, tear break-up time, and optical coherence tomography (OCT), to differentiate between neuro-ophthalmic, autonomic, and retinal phenotypes. OCT angiography (OCT-A) has emerged as a crucial non-invasive biomarker for detecting retinal microvascular dysfunction and reduced capillary perfusion in Long COVID patients.³

Furthermore, potential confounding by environmental factors during the pandemic warrants consideration. As highlighted by recent studies, the transition to remote work and digital education has sharply increased daily screen time.⁴ This shift has driven a well-documented surge in digital eye strain, primarily presenting as dry eye and blurred vision.⁵ Without data on daily screen time and pre-existing subclinical ocular conditions, the findings are prone to bias, potentially misattributing ocular discomfort from other causes to Long COVID. To determine whether ocular symptoms are a direct effect of SARS-CoV-2 or simply eye strain from prolonged screen use, future studies must control for daily screen time.

Finally, given the heavily skewed sex ratio in this study, I consider it necessary to separate the data by sex for independent analysis. The study population was predominantly female (approximately 73%). Existing studies have demonstrated that dry eye disease and dysautonomia, including postural orthostatic tachycardia syndrome (POTS), have a significantly higher prevalence in women.^{6,7} Based on this, it is reasonable to speculate that the significant co-occurrence of ocular symptoms and systemic autonomic dysfunction may be attributed to the skewed sex distribution of the population. Conducting a sex-stratified subgroup analysis will help determine whether these ocular manifestations differ between sexes, thereby enhancing the generalizability of the findings.

From a public health and personalized medicine perspective, these findings offer a strong rationale for integrating standardized vision screening into Long COVID multidisciplinary clinics. Routine administration of validated questionnaires, such as the Ocular Surface Disease Index (OSDI), could facilitate early identification.⁸ In clinical practice, for patients who present with both ocular symptoms and systemic symptoms such as dizziness and cold intolerance, a multidisciplinary team consisting of ophthalmologists, neurologists, and general practitioners is recommended for collaborative diagnosis and treatment, so as to comprehensively manage the fundamental neuroinflammation or autonomic dysfunction.

In summary, the study by Kaleem et al has laid an important epidemiological foundation for research on long COVID and has improved our understanding of this condition. Addressing the aforementioned methodological variables in future research will undoubtedly refine our diagnostic and clinical interventions. We thank the authors for their significant contribution to this evolving field.

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References

1. Kaleem S, Sawano M, Arun AS, et al. Ocular symptoms in long COVID: a cross-sectional study. *Clin Ophthalmol*. 2026;20:565596. doi:10.2147/OPTH.S565596
2. Ho DS, Vaou OE, Hohler AD. Dry eye syndrome and sicca complex are commonly found in patients with postural orthostatic tachycardia syndrome. *Clin Ophthalmol*. 2020;14:4015–4021. doi:10.2147/OPTH.S279520
3. Teo KY, Invernizzi A, Staurengi G, et al. COVID-19-related retinal micro-vasculopathy - a review of current evidence. *Am J Ophthalmol*. 2022;235:98–110. doi:10.1016/j.ajo.2021.09.019
4. Jakhar F, Rodrigues GR, Mendonca TM, et al. Dry eye symptoms and digital eyestrain - Emerging epidemics among university students due to online curriculum amid the COVID-19 pandemic. A cross-sectional study. *Indian J Ophthalmol*. 2023;71(4):1472–1477. doi:10.4103/IJO.IJO_2760_22
5. Elhusseiny AM, Eleiwa TK, Yacoub MS, et al. Relationship between screen time and dry eye symptoms in pediatric population during the COVID-19 pandemic. *Ocular Surf*. 2021;22:117–119. doi:10.1016/j.jtos.2021.08.002
6. Shaw BH, Stiles LE, Bourne K, et al. The face of postural tachycardia syndrome - insights from a large cross-sectional online community-based survey. *J Internal Med*. 2019;286(4):438–448. doi:10.1111/joim.12895
7. Stapleton F, Argüeso P, Asbell P, et al. TFOS DEWS III: digest. *Am J Ophthalmol*. 2025;279:451–553. doi:10.1016/j.ajo.2025.05.040
8. Pult H, Wolffsohn JS. The development and evaluation of the new ocular surface disease index-6. *Ocular Surf*. 2019;17(4):817–821. doi:10.1016/j.jtos.2019.08.008

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