

LETTER TO EDITOR

COVID-19-associated mucormycosis and evolving evidence

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We thank Sakthivel *et al.* for their useful comments on our letter on COVID-19-associated Mucormycosis (CAM). Our article, as noted by them, provides an overview of the plausible pathophysiological mechanisms and likely preponderance of CAM in India.¹

The authors have also highlighted the role of factors like newer variants, the role of cytokine storm, industrial oxygen and unhygienic ventilation systems in the pathogenesis of CAM. While we agree with them, it would be worthwhile to remember that the evidence regarding the different facets of this disease is gradually accruing with time. For example, a recent large-scale study by the COSMIC group included 2826 patients with CAM, out of which 43% of the patients did not require oxygen therapy.² Immunosuppression is a well-known risk factor for mucormycosis and a large proportion of their patients (87%) had received steroids. Interestingly, the dose of steroids was higher in those with severe disease that may act as a confounding factor in ascertaining the role of severity of disease in CAM. The study by MucoCovi network also reported that only 40% of the CAM patients had hypoxemia; however, the details of oxygen therapy (including use of industrial oxygen) were not provided by the authors.³ Hence, the above-mentioned factors

would require further in-depth studies to confirm or refute their role in the pathogenesis of this dreaded dual infection.

CAM is a novel entity and there is need for more evidence to study the role of various putative agents. As more literature is available, conclusions can be drawn on the various theories for increased incidence of CAM in India.

Conflict of interest. None declared.

References

1. Sarda R, Swain S, Ray A, Wig N. COVID-19 associated mucormycosis: an epidemic within a pandemic. *QJM* 2021.
2. Sen M, Honavar SG, Bansal R, Sengupta S, Rao R, Kim U, *et al.* Epidemiology, clinical profile, management, and outcome of COVID-19-associated rhino-orbital-cerebral mucormycosis in 2826 patients in India—Collaborative OPAI-IJO Study on Mucormycosis in COVID-19 (COSMIC), Report 1. *Indian J Ophthalmol* 2021; **69**:1670–92.
3. Patel A, Agarwal R, Rudramurthy SM, Shevkani M, Xess I, Sharma R, *et al.* Multicenter epidemiologic study of coronavirus disease-associated mucormycosis, India. *Emerg Infect Dis* 2021; **27**.

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