

COVID-19 “MADE” Problem – “Mask-Associated Dry Eye” – Easy Solutions

Dear Editor,

The COVID-19 pandemic saw us go through four phases of lockdown in India; starting from March 25, 2020, to May 31, 2020; before announcement of the various phases of unlock starting June 1, 2020; with us currently being in Unlock 5.0; at the time that we write this letter to the editor. Through all these phases of lockdown-unlock, what remained common and most prominent was the message of Soap-Mask-Social (SMS) Distancing; as possibly the foremost preventive measures against COVID-19 infection. The face mask is ubiquitous and rightly perceived now, as an important part of our clothing. Indeed, we see many apparels coming with matching face masks. While we completely support the use of face masks by everyone for protection against COVID-19, we are also aware now of the possibility of face masks causing ocular irritation including symptoms of dry eye including irritation, itching, and burning, especially in predisposed individuals. An increase in such symptoms along with signs like conjunctival hyperemia has been on the rise amongst healthcare workers in the COVID as well as non-COVID areas of our hospital and was first noticed by us on resumption of our Ophthalmology Services in May 2020. Now with the various phases of unlock coming into play, we observe an increase of such symptoms even among patients seen by other eye care specialists and the general population; especially as we move back to work with our face masks on; among other COVID appropriate behavior; as a part of our SMS campaigns. Such findings have been observed and described previously by Moshirfar *et al.*^[1] It is not novel to have an awareness of air blowing upward from the mask into our eyes while wearing masks. Indeed, being mindful of this airflow; made us change our examination protocols, especially during retinal examination using an indirect ophthalmoscope and a 20-D lens. We made it mandatory that patients should not only wear a mask during the examination but also have the upper border of the mask secured with an adhesive tape to the sides of the nose and upper cheek; especially so if the face mask is ill fitting to minimize the risk of patient's breath contaminating the examiner's hands. This is now a part of the protocols described in an evolving consensus on managing vitreo-retina and uvea practice in post-COVID-19 pandemic era.^[2] Gradually, we have realized that it is most likely this very airflow which accelerates the evaporation of the tear film which, when continuous for hours, may result in ocular surface irritation or inflammation and more so as this exhaled air would have a

Mayur R. Moreker¹, Tanuj R. Sharma², Sharang S. Ambadkar³

¹Department of Ophthalmology, Bombay Hospital Institute of Medical Sciences, Mumbai, Maharashtra, India, ²Department of Ophthalmology, Dr. Shroff's Charity Eye Hospital, New Delhi, India, ³FeelGood Econurture LLP, Mumbai, Maharashtra, India

Corresponding Author:

Mayur R. Moreker, Department of Ophthalmology, Bombay Hospital Institute of Medical Sciences, Mumbai, Maharashtra, India.

E-mail: eyeinflammation@gmail.com

higher percentage of CO₂. This has now led us to encourage our health care workers and also citizens at large, especially those who would wear masks for longer durations to use skin friendly adhesive tapes to secure the upper border of the mask to the sides of the nose and upper cheek, as shown in Figure 1. This, in addition to the use of ocular lubricants has been found to go a long way towards alleviating symptoms of dry eye which are otherwise experienced very severely at times. An additional

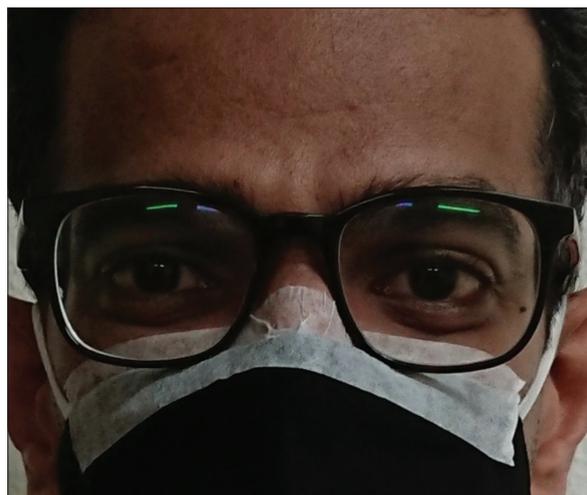


Figure 1: A health care worker in our hospital wearing a face mask with a skin friendly adhesive tape to secure the upper border of the mask to the sides of the nose and upper cheek. Note the spectacle rim that rests on the composite mask tape border which completely negates fogging of glasses (Picture Courtesy: Mayur R. Moreker)

advantage of this technique is that it leads to almost no fogging of the glasses when worn over the mask/adhesive tape again, as shown in Figure 1. More importantly, the uncomfortable feeling that the exhaled air going into the eyes and the consequent impulse to touch eyes with the risk of contaminating self; if hands are contaminated can be minimized. While using such a tape, one must be aware of the tape at times inadvertently; adhering to the skin of the upper cheek; in such a way so as to interfere with lower eyelid excursion during a normal blink, and the possibility of inducing mechanical ectropion with secondary lagophthalmos in some individuals, especially those with lower lid laxity.^[1] With COVID-19 and accompanying face mask use likely projecting well into the foreseeable future; eye dryness, irritation from mask wear may become a problem for a large percentage of the population. This would be extremely pertinent in patients with ocular surface inflammations like dry eye disease or keratoconjunctivitis sicca. For such patients, apart from the solution provided above; masks with nose clips

and frequent lubrication and ocular emollients would help alleviate symptoms and tide over this problem. Through this letter to the editor, we want to make all our colleagues, general physicians, and specialty consultants aware of this entity of Mask-Associated Dry Eye;^[3] and the easy pragmatic solutions for health care workers and citizens at large.

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