

LETTER TO THE EDITOR

Can intraoral mask be a safe alternative for COVID-19 patients?

Dear Editor,

We have read with great interest the article of Foley et al.¹ concerning difficult airway management in adult COVID-19 patients and try to implement their statement in our clinical practice. In this article, the Society of Airway Management emphasize that COVID-19 patients may have both physiologically and anatomically difficult airway. For this reason, effective preoxygenation and mask ventilation options, which reduce aerosol formation, gain importance in these patients who can desaturate rapidly. An important focus of the article is to optimize successful airway management while minimizing healthcare workers' exposure risk.

Foley et al.¹ recommend using a well-sealed facemask with HEPA filter for preoxygenation prior to induction. They also recommend performing bag-mask ventilation with a well-sealed facemask after induction. In case of a significant leak they recommend using a supraglottic device.

We hypothesize that the intraoral mask can be used successfully in the preoxygenation and mask ventilation of these patients by preventing leakage and aerosol formation, and we wanted to share it with anesthesiologists' public opinion. Although there is no literature proving that aerosol formation is reduced when intraoral mask is used; we think that there is a literature that can give an idea on this subject.

Nimmagadda et al.² showed on healthy volunteer that the intraoral mask is as effective as the classic face mask



Figure 1 Intraoral mask.

in achieving maximal preoxygenation during tidal volume breathing. They stated that in patients with a high risk for developing leak under the face mask (e. g., patients with beard) would benefit from the use of the NuMask because of a different anatomical seal.

Intraoral mask is positioned inside the mouth between lips and teeth of the patient like a snorkel and well tolerated by awake patients. It can be used even with novice users and practitioners with small hand by reducing hand interface size^{3,4} (Figs. 1 and 2). Additionally, intraoral mask can be used for noninvasive ventilation in intensive care for respiratory support.⁵

As a result, we wanted to share our opinion immediately to open it up for discussion by anesthesiologists and other experts interested in airway management. Intraoral mask may be useful in confirmed and suspicious COVID-19 patients' airway management and noninvasive ventilation management with advantage of minimal air leak and effective ventilation.

<https://doi.org/10.1016/j.bjane.2021.08.021>

© 2021 Sociedade Brasileira de Anestesiologia. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article as: B.G. Aytaç and İ. Aytaç, Can intraoral mask be a safe alternative for COVID-19 patients? Brazilian Journal of Anesthesiology, <https://doi.org/10.1016/j.bjane.2021.08.021>



Figure 2 Airway management with an intraoral mask.

Conflicts of interest

The authors declare no conflicts of interest.

References

1. Foley LJ, Urdaneta F, Berkow L, et al. Difficult airway management in adult coronavirus disease 2019 patients: statement by the Society of Airway Management. *Anesth Analg.* 2021;133(4):876–90.
2. Nimmagadda U, Salem MR, Voronov D, et al. The NuMask® is as Effective as the Face Mask in Achieving Maximal Preoxygenation. *Middle East J Anaesthesiol.* 2016;23:605.
3. Amack AJ, Barber GA, Ng PC, et al. Comparison of ventilation with one-handed mask seal with an intraoral mask versus conventional cuffed face mask in a cadaver model: a randomized crossover trial. *Ann Emerg Med.* 2017;69:12–7.
4. McCrory B, Lowndes BR, Thompson DL, et al. Workload comparison of intraoral mask to standard mask ventilation using a cadaver model. In: *Proceedings of the Human Factors and Ergonomics Society Annual Meeting.* Los Angeles, CA: SAGE Publications Sage CA; 2012.
5. Pillar G, Segev A, Kurtz E. The SomnuSeal oral mask is reasonably tolerated by otherwise CPAP non compliant patients with OSA. *Sleep.* 2012;35:A164.

Betül Güven Aytaç ^{ID}*, İsmail Aytaç

Ankara City Hospital, Anesthesiology and Reanimation Department, Ankara, Turkey

*Corresponding author.

E-mail: drbguven@hotmail.com (B.G. Aytaç)

19 April 2021