

CORRESPONDENCE

CORONA EXPERIENCE

Airway management practices in Covid ICU during the first and second phase of Covid-19 pandemic: experience from a tertiary care hospital of Western Uttar Pradesh, India

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Various airway management devices and techniques have been evaluated and recommended during Covid pandemic.¹ During the first wave in India (April 2020 to November 2020),² the intubation strategy included: consultant-led intubation teams, the use of video laryngoscopes (VL) and aerosol box (AB).³ During the second wave (April 2021 to June 2021),² the intubation procedures were modified owing to the availability of the resources, manpower, and as directed by the experience gained during the first wave. This retrospective survey compared the intubation practices in the ICU of our hospital during the first and the second wave of COVID.

All adult patients with respiratory failure secondary to COVID, requiring endotracheal intubation (ETI) in ICU were included. Parameters compared were: Seniority of intubator (experience > 5 y), first attempt success rate (successful attempt: correct ETT placement confirmed by chest movement, capnography, and expired tidal volume > 8 ml/kg. Unsuccessful attempt: failure of insertion of ETT under vision, no chest movement and no capnography trace on ventilation, or time > 60 sec, desaturation during ETI (SpO₂ < 90%), use of VL (King Vision^R VL), and AB (by Lai, Hsien Yung; 2020).⁴

Data were retrospectively collected from the medical records for comparison (intubation notes). Eighty intubations were performed during first and 264 intubations during the second wave in our ICU. Using desaturation during ETI as a surrogate marker for the airway event, potential predictors of desaturation were compared. The Notable difference between the two cohorts (Figure 1) was;

1. *Team composition:* predominance of senior faculty as primary intubator was higher during the first wave as compared to the second. (70% vs. 40%). The increased participation of junior doctors as primary intubators was due to the massive surge in the number of COVID patients in the second wave of the pandemic.
2. *First attempt success rate for ETI:* It was higher in the first wave (85% vs. 70%). The increased number of attempts with higher desaturation episodes was observed in the second wave (55% vs. 70%), which could be related to the majority of intubations being performed by the lesser experienced intubators, increased disease severity, and longer duration of NIV support before ETI.
3. *Use of VL:* The use was increased in the second phase (90% vs. 50 %) Though the use of the VL showed some promise when used effectively, most of the intubators during the first wave did not utilize this modality. This could be due to a lack of experience and familiarity with the VL. Extensive airway education programs were undertaken in our institute between the two waves of pandemic which increased its use in the second wave.
4. *Use of an AB:* The AB use reduced in the second wave compared to the first one (30% vs 62%) as its use increased the intubation difficulty and the time required for successful intubation. A meta-analysis by Lim et al. also

concluded that intubation time was increased significantly with AB.⁵

This comparison aims to review and refine our airway management practices. This survey throws some light

on the importance of ongoing training programs and simulation workshops on airway management to improve the skills of healthcare professionals. Advancement in skills can improve the outcome trajectory in critically ill patients.

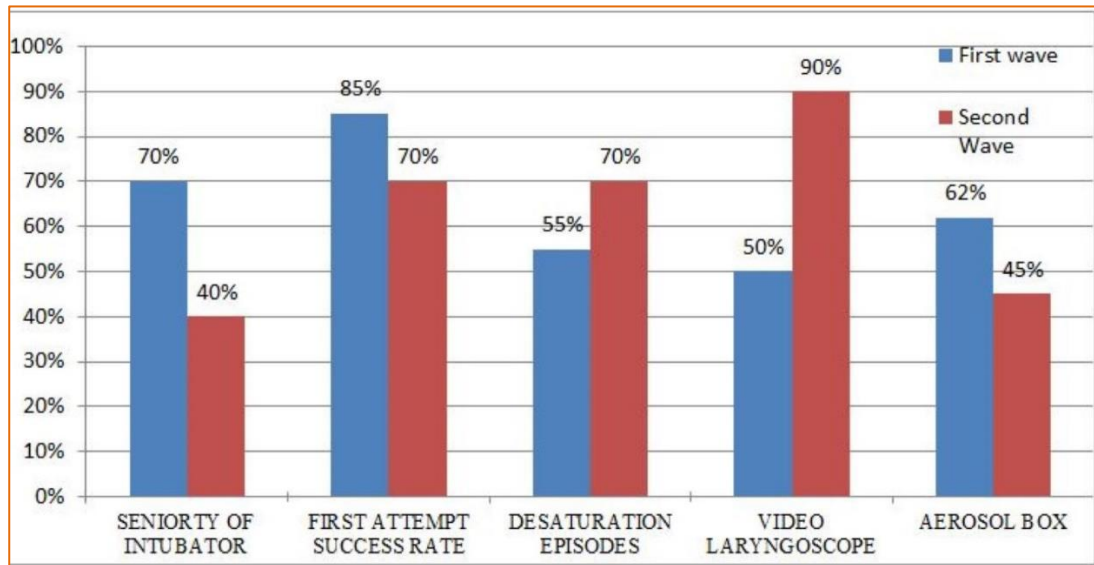


Figure 1: Graphical Representation of various parameters compared during tracheal intubation

References

- Orser BA. Recommendations for Endotracheal Intubation of COVID-19 Patients. *Anesth Analg*. 2020 May;130(5):1109-1110. [PubMed] DOI: [10.1213/ANE.0000000000004803](https://doi.org/10.1213/ANE.0000000000004803)
- Kar SK, Ransing R, Arafat SMY, Menon V. Second wave of COVID-19 pandemic in India: Barriers to effective governmental response. *EClinicalMedicine*. 2021 Jun;36:100915. [PubMed] DOI: [10.1016/j.eclinm.2021.100915](https://doi.org/10.1016/j.eclinm.2021.100915)
- Cook TM, El-Boghdady K, McGuire B, McNarry AF, Patel A, Higgs A. Consensus guidelines for
- managing the airway in patients with COVID-19: Guidelines from the Difficult Airway Society, the Association of Anaesthetists the Intensive Care Society, the Faculty of Intensive Care Medicine and the Royal College of Anaesthetists. *Anaesthesia*. 2020 Jun;75(6):785-799. [PubMed] DOI: [10.1111/anae.15054](https://doi.org/10.1111/anae.15054)
- Lim ZJ, Ponnappa Reddy M, Karalapillai D, Shekar K, Subramaniam A. Impact of an aerosol box on time to tracheal intubation: systematic review and meta-analysis. *Br J Anaesth*. 2021 Mar;126(3):e122-e125. [PubMed] DOI: [10.1016/j.bja.2020.11.036](https://doi.org/10.1016/j.bja.2020.11.036)