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Enhancing the Efficiency of Bag Mask Ventilation: New Method

Sir,

Airway management is the key to safe and effective anaesthesia; and face mask ventilation is the most important skill to be mastered, as it allows for oxygenation and ventilation until definitive control of airway is established. The goal of proper mask holding is to keep the airway patent and form a tight seal of mask so that effective ventilation can be provided. Extension of head, and jaw-lift manoeuvres are frequently employed for successful mask ventilation.¹

Many studies have compared one-handed technique with two-handed technique of mask ventilation; but all of these have found two-handed technique superior.¹⁻³ Multiple techniques of hand positioning for face mask ventilation exist in literature and some of these techniques have been compared for their efficacy in adults. These include one-handed C-E technique, two-handed C-E technique, and two-handed V-E technique.⁴ Hart *et al.* compared effectiveness of mask seal using three different face mask techniques and measured ventilation performance and found that two-handed C-E technique and V-E technique of ventilation methods were superior to one-handed ventilation method.⁴

We introduce a new technique for mask ventilation, the two-handed UV technique. In this technique, seal of mask is made with thumb and index finger on either side of the mask and the angles of mandible on two sides are supported with middle fingers of the two hands. The remaining ring finger and little finger are tucked in and folded inside the palm to support the middle fingers and the hands (Figure 1A).

Figure 1: (A) The “U” of this technique is formed by thumb and index finger while “V” is formed by index and middle finger. (B) Adequate seal that prevents aerosol generation during bag mask ventilation.

Recently, similar to this technique, two-hand V-E technique is recommended by a consensus guideline for managing the airway in patients with COVID-19.⁵

This technique of face mask ventilation is advantageous for paediatric patients over conventional CE clamp technique, as the fingers are not placed below the jaw-line; thereby avoiding the possibility of airway obstruction, caused by inadvertent pressure on the soft tissues (Figure 1B).

We found this modification in the traditional approach very useful not only in paediatric population but also in patients with difficult mask ventilation; and for applying Larson’s manoeuvre during management of laryngospasm (Figure 2).



Figure 2: Effective application of Larson’s manoeuvre.

Recently, similar to this technique, a V-E technique is recommended by a consensus guideline for managing the airway in patients with COVID-19.^{5,6} We proposed this two-person U-V bag mask ventilation technique in COVID-19 patients, as it will limit the generation of aerosols. Randomised trials with large sample size on different new techniques are recommended for establishing superiority of one technique on the others.

CONFLICT OF INTEREST:

Author declared no conflict of interest.

AUTHOR’S CONTRIBUTION:

Solely contributed to the conception, literature search, writing / revising all drafts of the manuscript and gave final approval as well as agreed to be accountable for all aspects of the manuscript and agreed to act as the corresponding author.

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