Scope of Retrograde Intubation in the COVID19 Era. Could it be Given a Try?

Arun Muthukumar*

Department of Anaesthesia and Critical care, CNMCH, Kolkata, West Bengal, India

Respected Sir,

The recent Corona Virus Disease of 2019 (COVID19) pandemic is becoming an increasing threat. The need for airway management is rising, be it an emergency or for an elective surgery. The Difficult Airway (DA) management in COVID19 patients brings up an enormous amount of stress to the anaesthetist. They will have to secure jammed airways, with so many odds before them like fogging of the protective glasses occluding a clear vision, and a heavy PPE preventing free movements of the hands for intubation. It might sound easier, employing minimal members for any emergency procedures involving COVID19 patient care, but practically not possible. In DA not permitting routine laryngoscopy, alternate options should be sought [1].

This demands the higher modalities of assisting and securing airway like Fibreoptic bronchoscopy guided nasal or oral intubation. American Society of Anaesthesiologists (ASA) guidelines recommend the usage of FOI only when unavoidable circumstances arise. But in many small setups it's not feasible to arrange a fibreoptic scope. There are case reports regarding the usage of Fibreoptic Intubation (FOI) in COVID19 patients [2]. This demands the presence of at least three experienced persons during the procedure, with mild procedural sedation before beginning General Anaesthesia. Local anaesthetics (LA) are used for anaesthetizing the airway by means of spraying, atomising, or nebulizing [3]. Among these procedures, atomising or nebulizing the patients with LA, tends to spread the organism more by aerosols. In contrast, some studies hypothesized the effectiveness of nebulized lignocaine in preventing cytokine storm associated with COVID19 lung injury [4].

Recent studies denote usage of negative pressure tent while atomising or nebulizing LA, while some mentioning the usage of reusable fibreoptic scopes for airway management in COVID19 patients. All these warrants the drain of Personal Protective Equipment (PPE's), labour power and cost burden. In the absence of display screen, FOI poses a great challenge to the performing anaesthetist causing difficulty in visualizing the vocal cord and airway anatomy clearly through the eye piece. Despite being a controversial topic for discussion, use of awake FOI remains the only go for any COVID19 patient with DA needing surgery.

Retrograde intubation (RI) mostly preferred in cases where a patient with challenging DA needs surgery or emergency airway management in the absence of FOI [5]. The process employs Seldinger's technique by tracheal needle puncture and gives some discomfort to the patient. Recent scenario brings a controversy regarding the laborious FOI usage in COVID19 patients with DA needing surgery. RI demands comparatively less labour and expertise than FOI. By providing preprocedural bilateral superior laryngeal block, transtracheal block with 1%-2% lignocaine and a proper nebulization of 4%-10% lignocaine for 10-12 mins cough response to guidewire insertion could be effectively attenuated. Since many studies show that nebulization as a source of aerosol spread, nebulization should be done with immense precautions in the preoperative COVID19 isolation room and only if needed. If epidural catheter is used as a guide wire, mild sedation along with transtracheal and a superior laryngeal block would be enough with local infiltration of LA around the puncture site, there by avoiding the need of nebulization or atomisation.

Moreover, RI can be augmented by using an aerosol box, but difficult in a case of FOI, which re uires proper positioning of the insertion cord. Considering DA patients with poor vitals, RI provides a comparatively easy environment than a planned FOI. In cases where airway can't be anaesthetized easily, with an uncooperative, restless patient in hand, this technique might be helpful for the anaesthetist or any personnel in charge of maintaining the airway.

So retrograde intubation, if considered in a case of anticipated difficult airway can be a better alternative option to the laborious fibreoptic intubation in COVID19 patients. If proven successful it can also be employed in patients with severe airway oedema where chances of failed fibreoptic intubation are more, while waiting for long term tracheostomy.

REFERENCES

1. Smith JD, Chen MM, Balakrishnan K, Sidell DR, di Stadio A, Schechtman SA, et al. The Difficult Airway and Aerosol-Generating Procedures in COVID-19: Timeless Principles for Uncertain Times. Otolaryngol Head Neck Surg. 2020;194599820936615.

Correspondence to: Dr. Arun Muthukumar, Department of Anaesthesia and Critical care, CNMCH, Kolkata, West Bengal, India, Tel: 9445544089; E-mail: arunmuthukumar27@gmail.com

2. Sorbello M, di Giacinto I, Corso RM, Cataldo R. Prevention is better than the cure, but the cure cannot be worse than the disease: fibreoptic tracheal intubation in COVID-19 patients. Br J Anaesth. 2020;125(1):e187-e188.

3. Dhooria S, Chaudhary S, Ram B, Sehgal IS, Muthu V, Prasad KT, et al. A Randomized Trial of Nebulized Lignocaine, Lignocaine Spray, or Their Combination for Topical Anesthesia During Diagnostic Flexible Bronchoscopy. Chest. 2020;157(1):198-204.

4. Ali ZA, El-Mallakh RS. Nebulized Lidocaine in COVID-19, An Hypothesis. Med Hypotheses. 2020;144:109947.

5. Lehavi A, Weisman A, Katz Y. Retrograde Tracheal Intubation-An Alternative in Difficult Airway Management. Harefuah. 2008;147(1):59-93.