

Emergency surgical access in complete ventilation failure or CICO: The right time!

The airway management is one of the core competencies of anesthesiologists. We are bound to have knowledge and skill for not only routine airway management techniques but also well versed with emergency/rescue airway management skills like surgical access. The need of surgical access has decreased in recent years due to better training, formulation of airway guidelines for better decisions making and better availability of equipment like supraglottic devices and videolaryngoscopes.^[1] Emergency surgical access has always been considered an important rescue skill in situations wherein airway cannot be secured using other airway management techniques leading to difficult ventilation and oxygenation.^[2,3] In view of its importance, the emergency surgical access has been incorporated in different airway management guidelines with emphasis on understanding the need of emergency surgical access and its appropriate training including skill retention strategies.^[2,3]

This issue of the journal publishes a manuscript wherein authors report a survey among UK anesthesiologists related to front of neck airway (FONA) in can't intubate, can't oxygenate (CICO) situation.^[4] They report the lack of training among the practitioners in spite of available guidelines for long. The lack of awareness could be many folds. One of the issues remains lack of acceptability for a particular technique in spite of existing guidelines favoring a particular technique. Usually the dictum remains to follow the technique that is known the best to the concerned individual. However, this also emphasizes the need of adult learning and acceptability in changing science. This remains one of the tough tasks in learning domain of adults. The authors report many findings that require insight for further training and administrative changes. It would have been good if the authors could have also reported correlation of lack of awareness or acceptability of the existing guidelines and surgical access technique. It would help others to strengthen the weakness for the same in subsequent times. The fourth national audit project (NAP4) of the Royal College of Anaesthetists (RCOA) has highlighted the limitation with regards to emergency airway access in real time scenario.^[5] Now again, this survey hints towards the need of full coverage of understanding and skill acquisition with regards to surgical access.^[4] Even with the existence of their national guidelines, only 75% respondents preferred scalpel cricothyroidotomy as the preferred technique. In spite of the

previous reports emphasizing the need of surgical access, only 28% departments had made this training mandatory for all grades of anesthetists.^[4] The interesting point emerged from this survey is the emerging use of ultrasound in airway management. This survey reports use of ultrasound for cricothyroid membrane identification in 10% respondent anaesthesiologists. Probably the ultrasound would find its way of its more usage in airway assessment and management. The authors have truly emphasized that 'national training standards should focus on continued skill acquisition and retention, make recommendations on appropriate training intervals and the structured delivery of standardised, multidisciplinary surgical access training'.^[4]

More recently, the concern has been debated with regards to timing of action/decision for emergency surgical access. This appeared due to variations in terminologies among the various airway management guidelines. The related concepts that exist in literature include 'Cannot intubate, cannot ventilate' (CICV); 'Cannot intubate, cannot oxygenate (CICO)' and 'Complete ventilation failure (CVF)'. CICV/CICO has been defined as 'situation where tracheal intubation, face mask and supraglottic airway device (SAD) failed'.^[3] CICV terminology was changed to CICO subsequently to provide umbrella cover for maintaining oxygenation. However, the term interpretation varies with regards to different aspects of oxygenation and thus remains confusing at times. All India Difficult Airway Association (AIDAA) airway management guidelines define CVF as 'situation where intubation, ventilation using SAD and face mask have all failed after giving the best attempt, even if oxygenation may be maintained'.^[2] So, they recommend 'proceeding to emergency cricothyroidotomy when there is CVF, while oxygenation is maintained and not only when hypoxaemia sets in'.^[2] The principle concept among these relates to decision of surgical access at a particular time. Whether it should be at time when oxygenation is not possible and patient starts deaerating or when ventilation is a failure (though oxygen level is still maintained). So, emergency cricothyroidotomy is deemed necessary when there is CVF. Another issue remains about the terminology of front of neck airway (FONA) itself, that too when it is suggested for emergency airway. It is considered synonymous with emergency cricothyroidotomy. Any emergency situation needs to have a specific and focused message like emergency cricothyroidotomy rather than thinking of "FONA" wherein the techniques could be many for airway access like percutaneous tracheostomy from front of neck.^[6-8]

The other concern is related to difficult airway in non-operating room scenarios. The existing literature and guidelines primarily

talks about the surgical access in operating room settings and recent literature in critical care set up. We need more literature for difficult airway and surgical access in other clinical areas as well. It has been reported that an emergency surgical airway (ESA) is required in almost 10% of cases in critically ill patients and is associated with high morbidity and mortality.^[9]

To conclude, in spite of its importance, performance of emergency surgical access is often hampered by delayed decision, inappropriate skill and knowledge with regard to equipment or its unavailability. Proper planning of airway management, preparation of appropriate equipment/expertise and optimal skill training/retention in emergency cricothyroidotomy remain paramount for reducing airway related morbidity. It further requires research for correct understanding of terminology and timing for taking a decision of emergency surgical access in difficult airway scenarios.

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Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/joacp.JOACP_310_18

How to cite this article: Garg R. Emergency surgical access in complete ventilation failure or CICO: The right time! *J Anaesthesiol Clin Pharmacol* 2019;35:324-5.

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