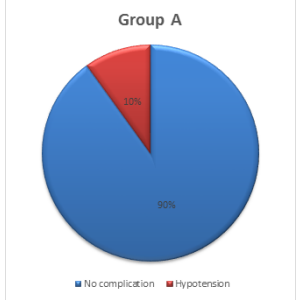
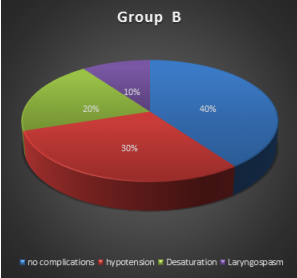
	<div>ORIGINAL RESEARCH PAPER</div> <div>COMPARATIVE ANALYSIS OF AWAKE VERSUS ANESTHETIZED TRACHEAL INTUBATION IN CRITICALLY ILL PATIENTS: INSIGHTS FROM A CLINICAL STUDY</div>	<div>Anaesthesiology</div> <div>KEY WORDS: Airway Management, Patient Safety, Tracheal intubation</div>
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<div>ABSTRACT</div>	<p>Tracheal intubation is vital in managing critically ill patients with difficult airways. This study compared adverse event frequencies between awake and anesthetized intubation in such cases. Twenty patients were divided into awake (Group A) and anesthetized (Group B) intubation groups. Group A used a fiberoptic bronchoscope, while Group B utilized video or direct laryngoscopy. Patients were monitored with ECG, BP, and pulse oximetry. Group A received oxygen, topical anesthesia, and dexmedetomidine, while Group B received preoxygenation and premedication. Group A had fewer adverse events, with only one case of hypotension, compared to Group B, which experienced desaturation, hypotension, and laryngospasm. Awake intubation demonstrated stable blood pressure and the potential for desaturation. This study underscores the advantages of awake tracheal intubation in minimizing adverse events and maintaining patient stability. Further research should refine awake intubation techniques to enhance patient outcomes in clinical practice.</p>
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<div>INTRODUCTION</div> <p>Tracheal intubation in critically ill patients can lead to significant peri-intubation complications.(1,2,3) These complications, termed the "physiologically difficult airway," encompass issues like hypoxemia, hypotension, metabolic acidosis, and right ventricular failure(4). Studies have highlighted the occurrence of life-threatening events during intubation, including hemodynamic instability, severe hypoxemia, and cardiac arrest(1,2,5). First-pass intubation failure rates in the ICU are notably higher compared to operating rooms(6,7,8). Awake tracheal intubation is typically the preferred approach for managing anticipated difficult airways in adults (9,10,11,12).</p> <p>In our study we have compared the outcomes in Patients undergoing awake tracheal intubation and anaesthetised tracheal intubation to identify the safer approach in critically ill patients.</p>	<p>oxygen. They were premedicated with glycopyrrolate at a dose of 4 micrograms per kilogram, midazolam at a dose of 0.03 mg per kilogram, and fentanyl at a dose of 2 micrograms per kilogram. Anesthesia induction was achieved with propofol at a dose of 2 mg per kilogram and atracurium at a dose of 0.5 mg per kilogram.</p> <p>Both groups were closely monitored for potential complications such as upper airway obstruction, laryngospasm, hypotension, desaturation, hypersalivation, teeth clenching, coughing, and vomiting. Any observed complications were noted.</p> <div>Observation</div> <p>Among group A, only 1 out of 10 patients had an episode of hypotension.</p> <p>In group B, 2 patients had episode of desaturation, with saturation falling up to 86%.</p> <p>3 patients had episode of hypotension during the surgery. 1 patient had laryngospasm.</p>
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<div>Aim</div> <p>To assess the frequency of adverse occurrences during awake tracheal intubation versus intubation under anaesthesia in critically ill patients with challenging airway conditions.</p>	
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<div>MATERIALS AND METHODS</div> <p>We examined a total of 20 cases of tracheal intubation, with 10 patients undergoing awake intubation and 10 undergoing intubation under anesthesia. Two distinct groups were formed for comparison:</p> <ul style="list-style-type: none"> Group A consisted of patients undergoing awake tracheal intubation utilizing a fiberoptic bronchoscope. Group B comprised patients undergoing tracheal intubation under anesthesia using either a video laryngoscope or a direct conventional laryngoscope. <p>All patients were closely monitored throughout the procedure using electrocardiography (ECG), non-invasive blood pressure (BP) monitoring, and pulse oximetry.</p> <p>In the awake group, patients received oxygen through a high-flow nasal cannula at a rate of 6 liters per minute. They were also given topical anesthesia with 10% lignocaine sprayed directly onto the oral mucosa, along with a trans-tracheal injection of 30mg lignocaine.</p> <p>Before airway manipulation, each patient in Group A received an initial dose of dexmedetomidine at a rate of 1 microgram per kilogram over 10 minutes via continuous infusion.</p> <p>In Group B, all patients were preoxygenated with 100%</p>	<div>Group A</div>  <table border="1"> <caption>Group A Data</caption> <thead> <tr> <th>Complication</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>No complication</td> <td>90%</td> </tr> <tr> <td>Hypotension</td> <td>10%</td> </tr> </tbody> </table> <div>Group B</div>  <table border="1"> <caption>Group B Data</caption> <thead> <tr> <th>Complication</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>No complication</td> <td>40%</td> </tr> <tr> <td>Hypotension</td> <td>30%</td> </tr> <tr> <td>Desaturation</td> <td>20%</td> </tr> <tr> <td>Laryngospasm</td> <td>10%</td> </tr> </tbody> </table>	Complication	Percentage	No complication	90%	Hypotension	10%	Complication	Percentage	No complication	40%	Hypotension	30%	Desaturation	20%	Laryngospasm	10%
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<div>RESULTS</div> <p>The findings revealed that awake tracheal intubation was associated with a significantly lower incidence of adverse events compared to anaesthetized tracheal intubation.</p>	<div>www.worldwidejournals.com</div>
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Awake intubation was safely used with advantages of stable blood pressure, potential presence of desaturation.

DISCUSSION

In this study we have observed that there were lesser side effects with awake intubation than with anaesthetised intubation in critically ill patients. Postinduction Videolaryngoscopy has an increasing role in the management of difficult DL with its addition to the latest ASA Difficult Airway Algorithm, but it has limitations (lack of provider experience, previous neck surgery or radiation, and head and neck masses) (13).

Hence, most still consider awake intubation to be the gold standard for difficult airways, because it maximizes the time that a cooperative patient can protect his or her own airway.

CONCLUSION

Fiber optic awake intubation provides a safe and effective way of intubation in patients with difficult airways and is preferred over anaesthetized tracheal intubation in critically ill patients. Awake tracheal intubation significantly reduces peri intubation events and reduces airway injury as compared to direct laryngoscopy and video laryngoscopy in anaesthetized critical patients.

REFERENCES:

- [1] Russotto, V., Myatra, S. N., Laffey, J. G., Tassistro, E., Antolini, L., Bauer, P., ... & Giacomucci, A. (2021). Intubation practices and adverse peri-intubation events in critically ill patients from 29 countries. *Jama*, 325(12), 1164-1172.
- [2] Jaber, S., Amraoui, J., Lefrant, J. Y., Arich, C., Cohendy, R., Landreau, L., ... & Eledjam, J. J. (2006). Clinical practice and risk factors for immediate complications of endotracheal intubation in the intensive care unit: a prospective, multiple-center study. *Critical care medicine*, 34(9), 2355-2361.
- [3] De Jong, A., Molinari, N., Terzi, N., Mongardon, N., Arnal, J. M., Guitton, C., ... & AzuR  a Network for the Frida-R  a Study Group. (2013). Early identification of patients at risk for difficult intubation in the intensive care unit: development and validation of the MACOCHA score in a multicenter cohort study. *American journal of respiratory and critical care medicine*, 187(8), 832-839.
- [4] Mosier, J. M., Joshi, R., Hypes, C., Pacheco, G., Valenzuela, T., & Sakles, J. C. (2015). The physiologically difficult airway. *Western Journal of Emergency Medicine*, 16(7), 1109.
- [5] Griesdale, D. E., Bosma, T. L., Kurth, T., Isac, G., & Chittock, D. R. (2008). Complications of endotracheal intubation in the critically ill. *Intensive care medicine*, 34, 1835-1842.
- [6] Mort, T. C. (2004). Emergency tracheal intubation: complications associated with repeated laryngoscopic attempts. *Anesthesia & Analgesia*, 99(2), 607-613.
- [7] Schwartz, D. E., Matthay, M. A., & Cohen, N. H. (1995). Death and other complications of emergency airway management in critically ill adults: a prospective investigation of 297 tracheal intubations. *The Journal of the American Society of Anesthesiologists*, 82(2), 367-376.
- [8] Martin, L. D., Mhyre, J. M., Shanks, A. M., Tremper, K. K., & Kheterpal, S. (2011). 3,423 emergency tracheal intubations at a university hospital: airway outcomes and complications. *The Journal of the American Society of Anesthesiologists*, 114(1), 42-48.
- [9] Apfelbaum, J. L., Hagberg, C. A., Connis, R. T., Abdelmalak, B. B., Agarkar, M., Dutton, R. P., ... & Tung, A. (2022). 2022 American Society of Anesthesiologists practice guidelines for management of the difficult airway. *Anesthesiology*, 136(1), 31-81.
- [10] Piepho, T., Cavus, E., Noppens, R., Byhahn, C., D  rges, V., Zwissler, B., & Timmermann, A. (2015). S1 guidelines on airway management. *Der Anaesthesist*, 64, 859-873.
- [11] Law, J. A., Duggan, L. V., Asselin, M., Baker, P., Crosby, E., Downey, A., ... & Canadian Airway Focus Group. (2021). Canadian Airway Focus Group updated consensus-based recommendations for management of the difficult airway: part 1. Difficult airway management encountered in an unconscious patient. *Canadian Journal of Anesthesia/Journal canadien d'anesth  sie*, 68(9), 1373-1404.
- [12] Frerk, C., Mitchell, V. S., McNarry, A. F., Mendonca, C., Bhagrath, R., Patel, A., ... & Ahmad, I. (2015). Difficult Airway Society 2015 guidelines for management of unanticipated difficult intubation in adults. *BJA: British Journal of Anaesthesia*, 115(6), 827-848.
- [13] Aziz, M. F., Healy, D., Kheterpal, S., Fu, R. F., Dillman, D., & Brambrink, A. M. (2011). Routine clinical practice effectiveness of the Glidescope in difficult airway management: an analysis of 2,004 Glidescope intubations, complications, and failures from two institutions. *The Journal of the American Society of Anesthesiologists*, 114(1), 34-41.