

**BLIND NASAL INTUBATION IN CRANIOROFCIAL TRAUMA**

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**ABSTRACT**

Restricted mouth opening presents one of the greatest challenges to the anesthetist for endotracheal intubation and ventilation. Awake blind nasal intubation has been one of the finest and favored techniques for intubation in previous decades for restricted mouth opening patients. A coordinated team approach, monitoring and adequate counseling of the patient is mandatory for the airway management to carry out a safe surgical procedure

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Restricted mouth opening presents one of the greatest challenges to the anesthetist for endotracheal intubation and ventilation. Awake blind nasal intubation has been one of the finest and favored techniques for intubation in previous decades for restricted mouth opening patients[1,2]. In this article, we describe the difficult airway management of 5 patients with craniorofacial trauma with awake blind nasal intubation. 5 patients ( 4 male & 1 female) diagnosed with various craniorofacial injuries were operated for open reduction and internal fixation. All patients were intubated with awake blind nasal intubation with a same expert anesthetist.

Out of 5 patients, 3 patients had 8- 12mm of mouth opening and 2 patients had below 6 mm of mouth opening. All patients underwent a pre-anesthetic evaluation for intubation and ventilation. Same procedure was followed for all 5 patients. Thyromental distance was measured for all patients. Out of 5 patients , 4 patients had 5-

6cm and 1 patient had 3-4 cm.

On clinical examination of the nasal cavity, there was no obvious deviation of nasal septum, no hypertrophy of turbinates, or any nasal polyps or masses. Preoperative investigations were within normal limits. Chest X ray showed no deviation of trachea. Awake BNI was planned for the surgical procedure. Preoperatively nasal decongestant, 0.05% xylometazoline was instilled in bilateral nostrils. Inj. Midazolam 1gm was induced intravenously to allay anxiety and favour smooth intubation and vitals were monitored. Bilateral laryngeal block was given with 2% lignocaine. The nostril was lubricated with 2% lignocaine jelly, and awake BNI was tried. A 6.5 mm internal diameter, cuffed endotracheal tube was introduced through patient's nares and entered in the pharynx. Upon reaching nasopharynx, breathing sound was listened by the anesthetist at the endotracheal tube connector which was acting as a guide for the tube advancement and then the tube was further introduced while larynx was pushed gently to the right side externally. In some patients, in first attempt the trachea could not be identified and intubated and the ET tube was withdrawn and readjusted with positioning of head, extending it and pressing down at the thyroid cartilage. The position of the tube was marked by the coughing of the patient, inability to speak, hearing of breath sounds and with chest auscultation. Vitals were monitored which were stable. The ET tube was fixed in place. Anesthesia was administered and maintained by the cycle of halothane 1% and nitrous oxide 60%, oxygen 40% and vecuronium 2.5mg. Ventilation

was maintained with respiratory rate of 16 per min.

Adequate mouth opening is a prime requirement for safe and comfortable intubation and ventilation for anesthetist. Certain conditions like trismus caused in craniorofacial trauma and other conditions does not always ensures for an easy intubation. In these patients limited options are available for managing the airway[3]. Better options like orotracheal intubation, Laryngeal Mask Airway (LMA), Intubating LMA (ILMA), combitube are not useful in this reduced mouth opening patients[4]. Options are limited to blind nasal intubation, retrograde intubation using a guide wire, fibreoptic laryngoscopy and finally tracheostomy. Out of these, the safest and most widely used technique in previous decades was awake blind nasal intubation which is practiced by senior anesthetists presently[5]. Due to the latest advancement like fibreoptic laryngoscopy the management of airway in trismus patients has become safe, effective and a routine in established hospitals in urban areas in the present decades. Hospitals in urban and semi urban areas where the fibreoptic laryngoscope is not available or feasible, awake blind nasal intubation is the one of the best and cost effective technique. So the anesthetist performing this technique has to be efficient and well trained to perform awake BNI to manage difficult airway. Other options like retrograde intubation and tracheostomy can be performed by every present generation anesthetist. Some anesthetist prefers to perform fibreoptic nasal endoscopy prior to nasal intubation to visualize the nasal cavity, nasopharynx and oropharynx, and trachea for any deformities[6]. In all our 5 cases, awake blind nasal intubation was done without any preoperative fibreoptic laryngoscopy by the same expert anesthetist.

Awake blind nasal intubation is a one of the best alternative technique for management of difficult airway in patients having trismus. It remains

the technique of choice in rural, semi-urban places or conditions where expensive instruments like fibreoptic laryngoscopes are not available. It is cost effective, less traumatic technique with a high success rate in the hand of expertise anesthetist. A coordinated team approach, monitoring and adequate counseling of the patient is mandatory for the airway management to carry out a safe surgical procedure.

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