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Original Research Paper

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# SUBMENTAL OROTRACHEAL INTUBATION IN CRANIOMAXILLOFACIAL FRACTURE

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**ABSTRACT** **Introduction:** In Maxillofacial surgeries both Anesthesiologist and Surgeon will need to work in the Same surgical field to ensure a successful procedure .Hence the right intubation technique should be employed to obtain adequate airway in the above mentioned surgeries. Sub mental Intubation has been used as an effective alternative technique in many Pan Facial traumas .Presenting a case of Craniomaxialfacial trauma posted for Open Reduction and Internal fixation under General Anesthesia. **Case Report:** A 71yr male patient, weighing 68kg,moderately built and nourished, well oriented to time,place , person presented with gross facial asymmetry, diffuse swelling noted in the left eye and left cheek region.,b/l active nasal bleed,circum orbital edema and ecchymosis in the left eye. On examination Mouth Opening restricted to 2fingers,Segmental mobility present on th Maxilla. CT Brain revealed left lefort 2 fracture with zygomatic maxillary complex and right lefort 1 fracture and scheduled for open reduction and internal fixation with paramedian incision was done under general anesthesia.Intraoperatively difficult airway was anticipated and equipments necessary was kept ready.18 G Cannula was secured. All ASA standard monitors are attached. Patient was preoxygenated through facemask , premeditated and induced with propofol,airway secured by ETT via Orotracheal route, then conversion to submental route of intubation ensues. Intra-op uneventful. Post-operatively the endotracheal tube and pilot tube can be repassed through the passage created, thereby achieving reversal of the technique .Incision is then sutured and bandaged for proper wound healing.Patient shifted to Post-op and Post-op analgesia was given. **Conclusions:** Submental intubation is a very useful technique in the management of craniomaxillofacial trauma patients and offers a secure airway, efficient ventilation and uninterrupted operating field to the surgeon.This technique is well tolerated by the patient with less anaesthetic,surgical and post-operative complications along with the reduced span of hospital stay.

**KEYWORDS :** General anesthesia, submental intubation, maxillofacial trauma and lefort fracture

## INTRODUCTION

In Maxillofacial surgeries both Anesthesiologist and Surgeon will need to work in the Same surgical field to ensure a successful procedure. Hence the right intubation technique should be employed to obtain adequate airway in the above mentioned surgeries. Submental Intubation has been used as an effective alternative technique in many Pan Facial traumas. Presenting a case of Craniomaxialfacial trauma posted for Open Reduction and Internal fixation under General Anaesthesia.Here we are assessing submental route intubation as an alternative technique to nasal intubation, oro-tracheal intubation,tracheostomy , optical fiber intubation for the management of airway in craniomaxillofacial trauma.

### Case Report:

A 71yr male patient, weighing 68kg,moderately built and nourished, well oriented to time, place and person. No co morbidities, presented with gross facial asymmetry, diffuse swelling noted in the left eye and left cheek region.,b/l active nasal bleed,circum orbital edema and ecchymosis in the left eye.On examination Mouth Opening restricted to 2fingers,Segmental mobility present on th Maxilla. CT Brain revealed left lefort 2 fracture with zygomatic maxillary complex and right lefort 1 fracture and scheduled for open reduction and internal fixation with paramedian incision was done under general anesthesia.

### Anaesthetic Management

Pre-op examination and investigations were done and were within normal limits. Intraoperatively difficult airway was anticipated and equipement necessary was kept ready.18 G Cannula was secured. All ASA standard monitors are attached. Patient was preoxygenated through facemask , premeditated with inj.glycopyrrolate 0.2mg,Midazolam 1mg,Inj Fentanyl 100mcgand induced with inj.propofol 100mg airway followed by inj.succinylcholine 100mg,airway secured by armored ETT 8mm cuff, via Orotracheal route, then conversion to submental route of intubation ensues.1cm transverse incision is made in the midline of the face and below the lower border of the mandible in the sub mental space. Tongue should be placed superiorly and posterior to avoid interference and accidental injury. 1cm midline incision can then be made through the mucosa halfway between the floor of the mandible and sub-mandible ductal papillae.This incision is deepened by blunt dissection through geniohyoid, genioglossus, and anterior belly of diagastric muscles. A curved hemostat is placed through the incision,for grasping the pilot tube, thus a condinous passage is made through the incion.The connector for the endotracheal tube is removed and transferred externally through the sub-mental incision made. Accurate positioning of the ETT in the trachea is confirmed using Capnography and B/l auscultation of lungs. Furthur,the reconnection of tube is done and it is sutured to stabilize the tube to skin.This technique allowed the entotracheal tube to be positioned above the floor of the mouth, between the mandible and the tongue. Maintained on O2 +N20+IIV+inj.atracurim+isoflurane.Intra-op course uneventful. Post-operatively the endotracheal tube and pilot tube can be repassed through the passage created thereby achieving reversal of the technique.Incsion is then sutured and bandaged for proper wound healing . Patient shifted to Post-op and Post-op analgesia was given.

## DISCUSSION

Submental intubation has been considered to be a simple technique of intubation when Oro-tracheal and Nasotracheal intbation is contraindicated.It has permitted excellent visualization and control of operation field for the surgeon ans anesthesiologist as the intubation tube is not occupying the surgical field.Submental intubation can be considered an alternative technique for nasal intubation,oral intubation ,tracheostomy,optical fibre intubation in pan facial traumas ,skull-base fractures as it reduces the morbidity.Sub-mental intubation technique was given greater preference as it boast minimal complications,higher compliance and is ideal for the patients who do not require long-term ventilation.

### Conflict Of Interest

The authors declare that they have no conflict of interest.

### Acknowledgements

The authors declare that the have no competing interest.

## CONCLUSIONS

Submental intubation is a very useful technique in the management of craniomaxillofacial trauma patients and offers a secure airway ,efficient ventilation and uninterrupted operating field to the surgeon.

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