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ANAESTHETIC MANAGEMENT OF A CASE OF PAN FACIAL TRAUMA FOR MAXILLO ZYGOMATIC MANDIBULAR OSTEOTOMY AND PLATING

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ABSTRACT **Introduction:-** Airway management of a challenging case of a pan facial trauma for a maxillo zygomatic mandibular osteotomy and plating

Case Report:- We report a case of RTA of 23 years old male patient with pan facial trauma. Surgical repair of a complex maxillofacial trauma presents a challenge to the surgeon and anaesthesiologist. Where intubation via oral and nasal route cannot be performed, sub mental route of endotracheal intubation is very useful alterative. It obviates the need for tracheostomy and its related complications. We presented a case where we avoided tracheostomy in this patient and opted for the transmyelohyoid endotracheal intubation.

KEYWORDS : Maxillofacial Trauma, Transmyelohyoid Intubation

INTRODUCTION

Pan facial fracture involves the cranium, mid face and the mandible (1). Patients with complex maxillofacial injuries usually require general anaesthesia for surgical reduction of fractures. Early reconstruction of patients with pan facial fractures by open reduction and rigid internal fixation is now the standard of care. Several procedures exist in which the surgeon requires access to areas that would otherwise be obscured by endotracheal tube.

Orotracheal intubation is not suitable for assessing the dental relationship and occlusion, and nasotracheal intubation is contraindicated in patients with nasoorbitoethmoidal fractures or fractures of the base of skull owing to potential complications such as cerebrospinal fluid leakage and meningitis. Tracheostomy provides an alternative surgical intervention but can be associated with increased with post-operative care, complication rates and morbidity. In 1986, Hernandez described submental intubation as an alternative to all classic methods (2).

The submental intubation is a technique consisting of passing the endotracheal tube through the anterior floor of the mouth to allow free intraoperative access to dental occlusion and to nasal pyramid without endangering patients with skull base trauma (3). This technique allows for avoidance of tracheal dissection and eliminates the risk associated the nasal intubation in setting of facial trauma.

BACKGROUND

The case describes the joint anaesthetic and maxillofascial airway management in the case of a 23 years old male poly trauma patient posted for maxillary, zygomatic, mandibular osteotomy and replatting.

CASE REPORT

We reported a case of RTA of 23 years old male patient with 4 months old pan facial trauma for maxillary, zygomatic, mandibular osteotomy and replatting. Patient underwent primary care 4 months back in primary hospital care for fascial fractures and was treated for one side of the face and till than he had distorted fascial profile.

Preoperative evaluation showed poor mouth opening secondary to pain. He was appointed a mallampati score of II. All lab investigations were within normal limits.

CASE DESCRIPTION

Patient was accepted under ASA II, high risk, SICU, ventilator consents were taken. Kept NBM for 8 hours. Inside the OT, monitors attached and baseline vitals recorded. Premedication inj. Midazolam 0.02mg/kg, inj. Ondasetron 0.1mg/kg, inj. Glycopyrolate 0.004 mg/kg, inj. Fentanyl 1mcg/kg given i.v. Preoxygenated with 100% oxygen for 3 minutes. Induced with inj. Propofol 2mg/kg iv and inj. Succinylscholine 2mg/kg given as relaxant. Intubated with 8.0 cuffed and prewarmed with detachable 15mm universal connector flexometallic endotracheal tube with 3 number Mc-intosh laryngoscope blade. Inhalational anaestheia was maintained on isoflurane. Under full aseptic technique the submental intubation was carried out in following manners:

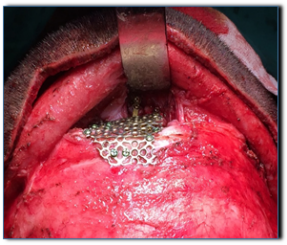
1. Incision was made in submental region and blunt dissection using an artery forcep performed to floor of mouth.
2. Oral mucous membrane was incised to create mucocutaneous passage.
3. Pilot tube and balloon of endotracheal tube guided through this mucocutaneous tract using an artery forcep.
4. Patient disconnected from the ventilator circuit and universal connector removed from ETT.
5. Oral component of ETT was passed out from mucocutaneous tract guided by an artery forcep.
6. Ventilator circuit reconnected.
7. Correct position confirmed with auscultation and capnography and ETT position secured with sutures. The surgery proceeded without any issue.

The patient was extubated with inj. Neostigmine 0.05mg/kg + Inj. Glycopyrolate 0.008mg/kg when spontaneous ventilation with adequate tidal volume and respiratory rate were present and protective airway reflexes had returned. The cuff was deflated and the endotracheal tube was removed via the submental tract. The submental incision was then closed by our surgical colleagues without complication.

There was no airway or respiratory compromise in the Post Anaesthesia Care Unit and post operative submental wound healing was satisfactory with a discrete scar.

Our patient tolerated the procedure well and had completely successful management of his airway, as well as uncomplicated extubation with the submental endotracheal airway management approach.

Submental intubation



Intraoperative platting

Post operative submental incision scar

DISCUSSION

This case highlights some of the unique requirements of maxillofacial surgery and how the submental approach to intubation is acceptable to both the anaesthetist and surgeon and is well tolerated by patients. Submental intubation appears to be an underutilised approach to the shared airway. It allows practitioners to avoid the risk of epistaxis, iatrogenic meningitis, or trauma of anterior skull base after nasotracheal intubation, as well as complications, such as tracheal stenosis, injury to cervical vessels or thyroid gland, sub cutaneous emphysema, or recurrent laryngeal nerve injury related to tracheostomy (4). The scar from the submental incision is thought to be less visible than a tracheostomy scar and has been well tolerated by the patients. Its use is not limited to craniofacial trauma but rather all types of maxillofacial surgery. It is a relatively safe procedure and is well tolerated by patients with an acceptable cosmetic result. The ultimate success of this technique as an airway management option depends on clear communication between the anaesthetist and the maxillofacial surgery team.

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