

SUBMENTAL OROTRACHEAL INTUBATION FOR AN UPPER LIP HAEMANGIOMA - A CASE REPORT

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ABSTRACT

Sir Hernandez Altemir had described in 1986 that submental intubation is a useful technique as an alternative to tracheostomy in selected patients allowing undisturbed access to oral and nasal airways and with a good dental occlusion. We report a case of haemangioma right upper lip extending to the right nasolabial region for which submental orotracheal intubation was done. This is a rare indication in contrast to the usual indication of submental intubation for complex craniomaxillofacial trauma cases. The submental approach for intubation allowed an unhindered surgical approach and ease of maintaining the airway thereby avoiding the need for tracheostomy.

KEYWORDS – haemangioma, alternative to tracheostomy, submental intubation

INTRODUCTION

Submental intubation consists of passing the oral endotracheal tube through the anterior floor of mouth through the submental triangle allowing undisturbed access to oral as well as nasal pyramids and a good dental occlusion. Accordingly, unnecessary surgery and potential complications associated with either a cricothyrotomy or tracheostomy can be avoided by using the submental intubation. Once the oroendotracheal intubation is achieved, it can be converted to a submental intubation. Conventional tracheostomy has many inherent complications like haemorrhage, subcutaneous emphysema, pneumothorax, recurrent laryngeal nerve palsy, tracheomalacia, tracheal stenosis, tracheal erosions, stomal and respiratory tract infections, trachea-oesophageal fistula, excess granulation, problems with decannulation and cosmetic disfigurement. The significant morbidity that can result after tracheostomy necessitates that it should not be used indiscriminately. The potential complications associated with submental intubation are comparatively fewer like haemorrhage, injury to

the sublingual glands, Whartons duct, lingual nerve, orocutaneous fistula and scarring.

CASE REPORT

We report a 24 years old male who presented with a haemangioma involving right side of upper lip, right side of nose extending into the antero medial aspect of right eye ball and along right optic nerve evidenced by MRI. Patient had phakomatosis on the back. Ophthalmology opinion was obtained and patient had no visual complaints and was referred to plastic surgeon for management of the haemangioma of lip and right nasolabial area. The management plan of the plastic surgeon was sclerotherapy followed by excision after 48 hours. His haemoglobin was 12.4gm%, blood glucose random was 107mg%, ECG and X Ray chest were within normal limits. CT scan of brain and MRI right orbit was done which showed the extent of the swelling. There was a deviated nasal septum to the left with left inferior turbinate hypertrophy. The swelling had extension to the right nasal passage. Thereby nasotracheal route for intubation was ruled out. He was an ASA grade 1 patient. A routine premedication of intravenous glycopyrrolate 0.2 mg, midazolam 1 mg and

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fentanyl 100 micrograms was given followed by preoxygenation with 100 % oxygen for five minutes , IV induction with propofol 100 mgs and succinyl choline 100 mgs. Direct laryngoscopy with Mackintosh blade size 3 was done carefully to avoid injury to the upper lip. On laryngoscopy the Cormack-Lehane grade was 3.

Using a bougie, 7mm size cuffed spiral embedded tube (flexometallic tube) was inserted into the trachea. Endotracheal tube position was confirmed by auscultation and capnography. Anaesthesia was maintained with a mixture of 50:50 nitrous oxide and oxygen plus isoflurane on controlled ventilation with atracurium. Monitoring included ECG, pulse oximetry, NIBP, ETCO₂, temperature and urine output. The throat was packed using sterile tape gauze. A temporary draping of the mouth and chin was carried out after standard skin preparation with 10% povidone-iodine solution. The surgeon made a 1.5 cm incision in the left submental triangle after local infiltration of skin with 2 % xylocaine with adrenaline. A Kelly's forceps was introduced through the skin incision and into the floor of the mouth by blunt dissection. The forceps was kept close to the inner side of the mandible. The pilot balloon of the tube cuff was first introduced into the mouth after deflation and pulled inferiorly to pass through the intra oral tunnel to emerge through the submental incision. Then the proximal end of the flexometallic tube was disconnected from the circuit and connector and brought out extra orally through the submental incision. The patient was ventilated with 100% oxygen for 3 minutes to prevent desaturation during disconnection from the circuit. The connector was reattached and the circuit was re-established. The position of the tube was checked for bilateral equal air entry and the cuff was reinflated and tube was fixed with sutures and plaster tape to prevent accidental extubation. A fresh pharyngeal pack was then re inserted after removing the existing throat pack. The surgery lasted for two and half hours. The intraoperative period was uneventful and vitals were stable. The blood loss was around 400 ml. At the end of the surgical procedure, the stay sutures around the tube were removed. The pilot balloon of the

deflated cuff and the tube were pulled in reverse order from the tunnel to the oral cavity. The skin wound was closed with interrupted 3-0 sutures and the intra oral wound was allowed to heal secondarily. In our case apnoea during the circuit disconnection was 30 seconds and the total procedure of submental intubation was around 5 minutes. Patient was shifted to ICU and followed up. The post operative period was uneventful. Histopathology report confirmed the diagnosis of haemangioma.



After submental intubation



Wound after 48 hours

DISCUSSION

The sub-mental intubation technique was found to be satisfactory for both the surgeon and anaesthesiologist. It allowed uninterrupted surgical access and a secure airway. When neither nasotracheal nor orotracheal intubation is suitable, submental intubation is a suitable alternative to the conventional tracheostomy which is associated with complications like haemorrhage, subcutaneous emphysema, pneumothorax, recurrent laryngeal nerve palsy, tracheomalacia, tracheal stenosis, tracheal erosions, stoma and respiratory tract infections, tracheo-oesophageal fistula, excess granulation and problems with decannulation, scarring, dysphagia etc. Submental intubation is not completely free from complications. There is always a risk of arterial oxygen desaturation during the conversion of oral intubation to sub-mental intubation and vice versa. Pilot balloon can also be damaged during the tube transfer or there may be difficulty in passing the tube through the incision or

reattaching the connector to the endotracheal tube. Complications like accidental extubation, tube obstruction and tube leaking are more difficult to manage in sub-mental route. Endotracheal tube exchanger has been used successfully to replace the damaged tracheal tube by the sub-mental approach. Other potential complications are infection of the sub-mental wound, trauma to the submandibular and sublingual glands and ducts, damage to the lingual nerve, fistula formation and scarring. However attention to details of the technique, careful blunt dissection and a good knowledge of anatomy can prevent above mentioned complications.

CONCLUSION

When neither nasotracheal nor oro-tracheal intubation is suitable, the submental intubation technique is an effective alternative to the conventional tracheostomy which is associated with many early, late and delayed complications. Hence tracheostomy should not be used indiscriminately in certain conditions where submental intubation can be an effective alternative technique.

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