Case Report

Submental Intubation for Wide Excision of Basal Cell Carcinoma

Kavyashree, M. R. Shashank, Aditi Prabhu, Kiran Prasanan, B. Sumitha

Department of Anesthesiology, Adichunchingiri Institute of Medical Science, Bellur, Mandya, Karnataka, India

Abstract

Submental intubation is a very good alternative to tracheostomy when short term airway management is required with undisturbed access to oral or nasal airways. We report a case of basal cell carcinoma over the left nasolabial fold, involving the upper lip and alae of nose with coexisting coronary artery disease, old inferior wall myocardial infarction, and low ejection fraction managed successfully under general anesthesia with submental intubation.

Keywords: Basal cell carcinoma, general anesthesia, myocardial infarction, submental intubation

Introduction

Basal cell carcinoma (BCC), one of the most common malignant skin tumor, commonly occurs in sunlight exposed areas, especially above the Ohngren's line.[1] It is a low-grade, locally invasive carcinoma arising from the basal layer of skin, adnexal basal layer of hair follicle, or mucocutaneous junction.[2] In our patient, the lesion was involving a wide area over the left nasolabial fold, alae, and part of the upper lip. Hence, submental intubation was preferred to oral/nasal to provide unobstructed field for wide excision of the tumor.

Submental intubation is an alternative to tracheostomy when airway control is required intraoperatively. It involves creation of orocutaneous tunnel and diverts the proximal end of armoured endotracheal tube through the anterior floor of the mouth.[3]

Major limitations of submental intubation include longer time for preparation; inability to maintain long-term postoperative ventilation; unfamiliarity of the technique itself; injury to lingual nerves, submandibular ducts, and sublingual glands; and postoperative wound site infection, hemorrhage, subcutaneous emphysema, orocutaneous fistula, damage to lingual nerve, and hypertrophic scar.[3-6]

Case Report

A 60-year-old male patient with the chief complaint of a nonhealing ulcer over the left nasolabial region since 10 years, which was progressively increasing in size with recent blackish discoloration of ulcer edges, diagnosed as BCC by edge biopsy, presented to us for excision of the same. The patient had diagnosed with coronary artery disease with old inferior wall myocardial ischemia 2 years back and was currently on heparin. Five days ago, the patient was detected as hypertensive and diabetic and was on tablets clinidipine and metoprolol and actrapid, respectively. On general physical examination, the patient was conscious, oriented, and afebrile with a normal pulse, blood pressure of 170/90 mmHg, SpO_2 (peripheral oxygen saturation) of 97–99% in room air, and Metabolic Equivalents (METS) between 4 and 5. Systemic examination did not reveal any significant finding.

Airway examination was normal with Mallampatti grade II. Patient had normal biochemical and laboratory profile. Electrocardiogram showed ST flattening in lead II, III, and avF. Echocardiography showed dilated left atrium, mild left ventricle dysfunction, mild Mitral Regurgitation (MR) with an ejection fraction of 45%. After optimization of blood pressure and obtaining an informed high-risk consent, the patient was taken up for surgery.

Address for correspondence: Dr. Kavyashree, Department of Anesthesiology, #205, M Venkategowda Layout, 1st 'A' Main Road, Hebbal Kempapura, Bengaluru - 560 024, Karnataka India.
E-mail: kavyashree.daanu@gmail.com

Access this article online

Quick Response Code:

Website: www.karnatakaanaesthj.org

DOI: 10.4103/kaj.kaj_9_17

How to cite this article: Kavyashree, Shashank MR, Prabhu A, Prasanan K, Sumitha B. Submental intubation for wide excision of basal cell carcinoma. Karnataka Anaesth J 2016;2:116-8.

A thorough cockpit drill of anesthesia machine was performed. General anesthesia with submental intubation was planned and the patient was shifted to the operation theatre, following which cannula was secured and hydrated adequately. The baseline vital parameters were recorded with standard monitors. The patient was preoxygenated and premedicated. He was then induced with inj. fentanyl 200 µg + inj. Propofol 50 mg, and endotracheal intubation was facilitated by inj. Suxamethonium 100 mg intravenous (IV) after confirming adequacy of bag and mask ventilation. Trachea was intubated with 8-mm cuffed flexometallic tube under direct laryngoscopy, bilateral air entry was checked, and cuff was inflated and connected to Bains circuit and ventilated. To convert to submental intubation, the right submandibular region was infiltrated with 2 ml 2% lignocaine with adrenaline under aseptic precautions, and incision of approximately 1.5 cm was made parallel to the inferior border of the mandible. Blunt dissection was made by the plastic surgeon with curved artery forceps to reach the sublingual mucosa.[3] A paramedian oral incision was made over the tensed mucosa and a tunnel was created. After ventilating the patient with 100% oxygen, the breathing circuit was disconnected and connector was detached from the endotracheal (ET) tube. The tip of the pilot balloon was pulled through the submental incision first, followed by the distal end of the ET tube in similar fashion with artery forceps and the ET tube was placed in a sulcus between the tongue and the mandible on the floor of the mouth. This was then reconnected to Bains circuit, bilateral air entry was confirmed, and was fixed to skin with stay sutures [Figure 1]. Throat was packed to prevent aspiration, and anesthesia was maintained with O_2:N_2O 3:5 + sevoflurane 0.8–1% intermittently + Inj. Propofol 120 mg given in divided doses + Inj. Vecuronium 11 mg in divided doses. Intraoperatively patient supplemented with IV steroids and antiemetic prophylaxis.

Surgery lasted for 5 hours without any untoward events, and after surgery, submental intubation was converted to oral intubation and throat pack was removed after thorough suctioning. As we were suspecting airway edema in the postoperative period, the patient was chosen for elective ventilation and was shifted to the surgical intensive care unit. The patient was sedated with fentanyl and midazolam and was extubated on the first postoperative day after slowly weaning off the ventilator. Post extubation, the patient had stable vitals and the rest of the postoperative period was uneventful and the patient was eventually discharged home.

Figure 1: Submental intubation done with flexometallic tube which is fixed to skin with stay sutures and Endotracheal tube connected to bains circuit

Discussion

Hernandez Altemir, a maxillofacial surgeon, first described submental intubation, which is a simple technique with low morbidity, best cosmesis, and less expenses.[4] Some indications of submental intubation are panfacial fractures or midfacial fractures with skull base fracture, leforts osteomies, elective mandibular orthognathic surgery, and rhinoplasty.[5,6] Submental intubation is a good alternative to tracheostomy where only short-term airway management is required because many complications associated with tracheostomy[6] can be avoided such as cardiac arrest, posthypercapnic shock, laryngeal and tracheal stricture, tracheo-oesophageal fistula, and extensive granulation.

Submental intubation is contraindicated in patients who require a prolonged period of assisted ventilation, who have suspicion of infection at the site of incision, with bleeding diathesis, disrupted laryngotracheal anatomy, polytrauma patients with severe neurological damage, major thoracic trauma patients, and those who need multiple surgical interventions.[6]

In our case, submental intubation was done to give the surgeon an unobstructed field for wide excision of BCC. As our patient had poor cardiopulmonary reserve induction, maintenance was done with cardioprotective agents such as inj. Propofol and sevoflurane-inhalational agent.[7]

Bassuoni *et al*.[8] compared the use of sevoflurane and Propofol as inducing agent in cardiac surgeries and showed there was decrease in postoperative release of troponin I and duration of ischemic effect, as well as the degree of ST depression was reduced in patients induced with sevoflurane than those induced with Propofol.

Sevoflurane was shown to reduce ischemia-induced metabolic changes in myocardium associated with decreased systemic hemodynamic parameters. Sevoflurane preconditioning significantly decreases the postoperative release of brain natriuretic peptide, a sensitive marker of myocardial contractile dysfunction in patients undergoing Coronary Artery Bypass Grafting (CABG) surgery.[9]

Conclusion

For a BCC patient posted for wide excision, submental intubation is expected to be a favorable alternative to tracheostomy. It allows intraoperative unobstructed field for surgeons and intraoperative checking of ET tube in case of kinking or occlusion. Moreover, it prevents complications related to nasotracheal and tracheostomy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her

consent for her images and other clinical information to be reported in the journal. The patient understands that name and initial will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Shah UV, Agrawal G, Vaghani SG. A case report on basal cell carcinoma: Noduloulcerative variety. IJBRFA 2015;6:288-90.
2. Bhat SM. Basal cell carcinoma. In SRB's manual of surgery. Edition 3; India: JAYPEE; 2012. p. 252-3.
3. Das S, Das TP, Ghosh PS. Submental intubation: A journey over the last 25 years. J Anaesthesiol Clin Pharmacol 2012;28:291-303.
4. Shetty PM, Yadav SK, Upadya M. Submental intubation in patients with panfacial fractures: A prospective study. Indian J Anaesth 2011;55:299-304.
5. Shenoi RS, Badjate SJ, Budhraja NJ. Submental orotracheal intubation: Our experience and review. Ann Maxillofac Surg 2011;1:37-41.
6. Jindal S, Kothari K and Singh AK. Submental intubation. Dent Res J 2013;10:401-3.
7. Jakobsen CJ, Berg H, Hindsholm KB, Faddy N, Sloth E. The influence of Propofol versus sevoflurane anaesthesia on outcome in 10,535 cardiac surgical procedures. J Cardiothorac Vasc Anesth 2007;21:664-71.
8. Bassuoni AS, Amr YM. Cardioprotective effect of sevoflurane in patients with coronary artery disease undergoing vascular surgery. Saudi J Anaesth 2012;6:125-30.
9. Bharti N, Chari P, Thingnam SK, Arora S. Comparison of haemodynamic and cardiovascular effects of VIMA with sevoflurane versus TIVA with Propofol in patients undergoing coronary artery bypass surgery. Indian J Anaesth 2008;52:805.