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## Case Presentation on Anaesthetic Management of a Patient with Palatal Defect

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### Abstract

Airway management of an adult patient with palatal defect is a challenging case to Anesthesiologist. We report an adult patient who is an operated case of nasopharyngeal Angiofibroma posted for palatal defect (3.5\*4.5 cm) repair. It was a major surgery lasted for 10 hours involving free flap from radial aspect of forearm along with radial artery and repositioning on palatal defect and anastomosis with facial artery. Challenges involved in this case management were airway, analgesia and fluid electrolytes . Intraoperative period was uneventful. Patient was electively shifted to ICU for prophylactic ventilatory support with ETTube in situ post procedure because it being a major surgery with

compromised airway with poor pharyngeal reflexes, copious secretions, bite block. Patient was postoperatively managed with adequate analgesia, sedation and relaxation and was extubated on 3rd postoperative day. The details would be discussed later.

## **Introduction**

The ideal reconstructive method for the palatal defect should provide durable, stable coverage, and a natural contour, while simultaneously minimizing morbidity of both the defect and donor sites. Although small and usual palatal defects can be repaired easily using local adjacent tissues, successful closure of large, complex defects is still a challenging problem [1]. Numerous free tissue options have to date been described for large palatal defects, the radial forearm flap constitutes a good option for ideal reconstructive goals [2]. Airway management of a patient with palatal defect is a challenging to the anaesthesiologist [3].

## **Case report**

A 20 yr Male patient coming from lower socioeconomic status presented with chief complains of difficulty in speech, occasional nasal regurgitation, and heavy snoring since 10 years. He had a Past History of surgery for Juvenile Nasopharyngeal Angiofibroma before 10 years resulting in large defect (3.5\*4.5 cm) in hard palate; Patient was tracheostomised at that time due to breathing difficulty. At present On Examination Patient was conscious, oriented & follow verbal command, Vitals: Pulse = 78 / min, BP = 110/70 mm of Hg, RR = 12-14 / min. On General Examination Height-170 cm, Weight-64 kg and others were normal. Neck movement: Adequate, Airway examination shows Mallampati Grade- I, Mouth opening- adequate with a defect of 3.5\*4.5 cm in hard palate. On Systemic Examination RS, CVS, CNS normal. Investigations including Hemogram, Coagulation Profile, LFT, RFT, Electrolytes, ECG, Echocardiogram were within normal limits. After taking Informed written consent patient shifted to Operation Theatre. On arrival to OT Monitoring ECG, NIBP, SPO<sub>2</sub>, ETCO<sub>2</sub> and Urine Output, Temperature applied and two large bore IV cannula secured.

General anaesthesia given started with Premedication Inj.Glycopyrollate 0.2mg, Inj.Emset 4 mg, Inj. Fentanyl 100 mcg i.v. given. Preoxygenation for 5 minute with 100% O<sub>2</sub> via Bain's circuit and mask done then patient induced with Inj. Propofol 130 mg, after check ventilation, Inj. Succinylcholine 100 mg i.v. given. Intubation with 8.5mm portex cuffed south pole oral RAE tube done, correct placement of the tracheal tube was confirmed by auscultation and capnography and oral packing done. Maintenance of anaesthesia with 50% O<sub>2</sub>, 50% N<sub>2</sub>O, Sevoflurane and non depolarizing muscle relaxant Vecuronium. Intraoperative Vitals were in range of Pulse-70-90/min; BP-100/60-130/80 mmhg. Intraoperative period was uneventful. Intraoperative blood loss around 300 ml. Intraoperative fluids RL-1500 ml, D5-500 ml, NS-1000 ml given. Urine output-1000 ml. Surgery lasted for 10 hours and analgesia was provided with intermittent Fentanyl 100 mcg, Diclofenac 100 mg and after surgery oral packing removed which was soaked with blood.

Postoperatively patient was electively shifted to ICU with ETT in situ for which south pole oral RAE tube is exchanged with oral endotracheal tube using tube exchanger and put on controlled ventilation because it being a prolonged intraoral surgery with airway edema with poor pharyngeal reflexes, copious secretions, bite block for maintaining integrity of anastomosis leading to increased prevention of aspiration of blood oozing from flap margin and anastomosis. In ICU patient was on SIMV mode of ventilation with sedation inj.Fentanyl (400 mcg) + Midazolam (30 mg), relaxant with Inj.Vecuronium (60 mg) using infusion pump in 50 cc infusion started at the rate of 5ml/min maintain for 1day and then put on T piece trial and then extubated on 3<sup>rd</sup> postoperative day and shifted to ward and discharged after 25 days. Post operative oozing present from nasal and oral area so oral, nasal and ET suction done periodically.

### **Surgical remarks**

- a) Left forearm radial artery anastomoses with Facial artery and left forearm collateral circulation from ulnar artery checked.
- b) Free flap from radial side of left forearm repositioned on palatal defect.

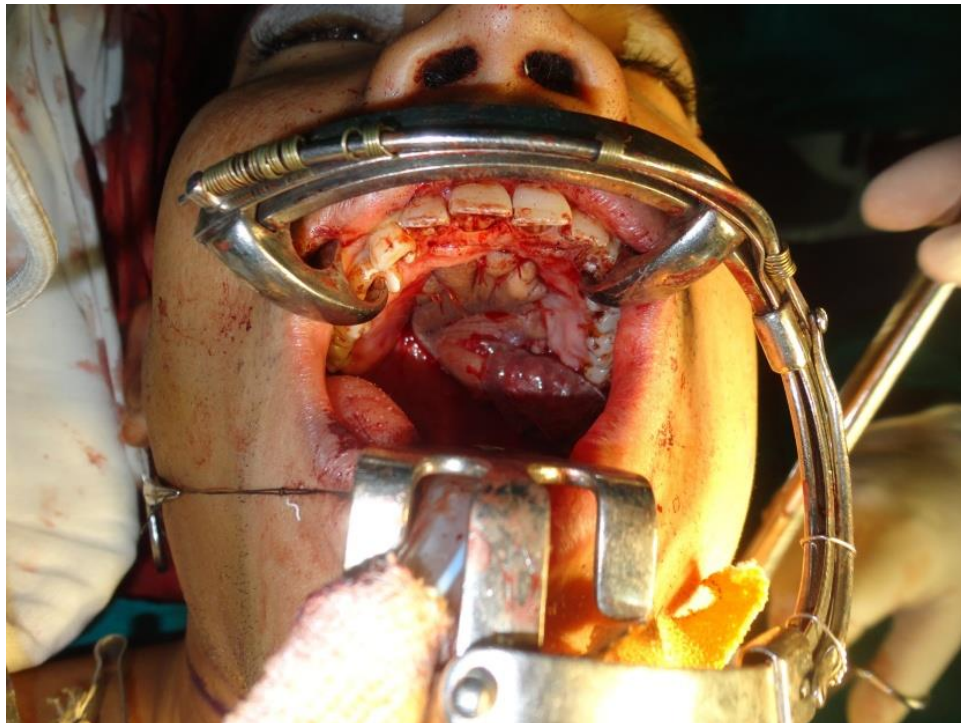
**PREOPERATIVE**



**POST OPERATIVE**



**INTRAOPERATIVE**



## Discussion

To establish, maintain, and protect the airway is the crucial point during the anaesthesia for palate surgery because the same area we have to share with the surgeon [4]. Failure of which leads to Hypoxia, Hypercarbia, Airway bleeding, Arrhythmia, Cardiac arrest and Death [4]. All instruments to deal with difficult airway should be ready. Other complications include obstruction of the endotracheal tube, inadvertent extubation during the procedure, bleeding, hypovolemia, airway oedema due to surgical manipulation, hypothermia [5]. Post operatively

- 1) delayed emergence due to prolong anaesthesia, hypothermia, respiratory distress [4,5].
- 2) Airway oedema leads to obstruction of airway due to manipulation, prolong surgery, bleeding, and secretions [3-5].
- 3) Respiratory depression. Good communication between the surgeon and anesthesiologist is must as they both share the same airway [4]. Thorough suction of blood and secretion is must without disruption of suture line [4,5]. Combination of airway oedema, closed palate, bleeding, residual anaesthetic effect, hypothermia leads to post operative airway obstruction and respiratory depression make extubation difficult [3-5]. So it will be advisable to shift the patient for elective ventilation till oedema regresses and oozing stops.

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