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ANAESTHETIC MANAGEMENT OF A PATIENT WITH BILATERAL ORAL SUBMUCOUS FIBROSIS AND COMPLETE TRISMUS: A CASE REPORT

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ABSTRACT Oral submucous fibrosis (OSMF) is a chronic progressive disorder of the oral cavity resulting in fibrotic changes of the mucosa and progressive restriction of mouth opening. Severe cases pose significant challenges in airway management during general anaesthesia. We report the anaesthetic management of a 32-year-old male with bilateral oral submucous fibrosis presenting with complete trismus, posted for bilateral fibrotomy with coronoidectomy and free radial forearm flap reconstruction. Anticipating a difficult airway, awake fiberoptic nasal intubation was performed under dexmedetomidine sedation with regional airway blocks. The intraoperative and postoperative courses were uneventful. This case highlights the importance of meticulous airway planning and the role of awake fiberoptic intubation in patients with severe OSMF.

KEYWORDS : Oral Submucous Fibrosis, Difficult Airway, Awake Fiberoptic Intubation, Dexmedetomidine, Regional Airway Blocks.

INTRODUCTION

Oral submucous fibrosis is a chronic, insidious, potentially malignant condition characterized by fibroelastic changes in the oral mucosa leading to progressive reduction in mouth opening. It is commonly associated with areca nut and tobacco chewing. Advanced disease may result in complete trismus, making airway management extremely challenging.

Surgical management often requires prolonged procedures under general anaesthesia. In such cases, awake fiberoptic intubation is considered the gold standard for securing the airway while maintaining spontaneous ventilation. The preoperative airway assessment, including the Mallampati score were useful in predicting the need for fiberoptic intubation[1]

Case Report

A 32-year-old male weighing 50 kg presented with inability to open the mouth due to bilateral oral submucous fibrosis. He was scheduled for bilateral fiberotomy with coronoidectomy and free radial forearm flap reconstruction.

The patient had a history of chronic tobacco chewing, discontinued in 2014, and areca nut use stopped in 2018. There were no active respiratory symptoms and no history of diabetes mellitus, hypertension, chronic obstructive pulmonary disease, or tuberculosis. He had no previous surgical or anaesthetic exposure. The patient was classified as ASA physical status II.

On general examination, the patient was conscious and oriented (GCS 15/15). Vital parameters were stable with blood pressure 110/60 mmHg, pulse rate 82/min, and respiratory rate 16/min. Breath-holding time was 22 seconds.

Airway examination revealed complete trismus with zero mouth opening(figure 1a). Mallampati grading was not assessable (figure 1b). Upper lip bite test was Grade III. Thyromental distance was 3–4 finger breadths, and neck movements were adequate.

Systemic examination was unremarkable. Laboratory investigations showed hemoglobin 10.8 g/dL, total leukocyte count 5,320/mm³, platelet count 1.66 lakh/mm³, serum creatinine 0.89 mg/dL, normal electrolytes, and PT/INR of 11.5/1.05. Other investigations were within normal limits.

High-risk informed consent including the possibility of postoperative ventilation and ICU care was obtained. Adequate blood products were arranged and nil per oral status was confirmed.

Airway preparation included nebulization with 4% lignocaine (3 mL) and nasal decongestion using oxymetazoline drops. Standard ASA monitoring along with temperature monitoring was instituted. High-flow nasal oxygen was administered at 4 L/min. Glycopyrrolate 0.2 mg IV and midazolam 0.5 mg IV were given as premedication.

Dexmedetomidine infusion was started with a loading dose of 0.5 µg/kg to achieve a Ramsay sedation score of 2. Its ability to produce sedation and analgesia without respiratory depression means it is becoming increasingly used for procedural sedation including Awake fiberoptic intubation. [2] Bilateral superior laryngeal nerve blocks and a transtracheal block were administered using 2% lignocaine (2 mL each).(figure 1c)

Awake fiberoptic nasal intubation was performed using an Ambu Scope. A 7.0 mm internal diameter endotracheal tube was introduced through the left nostril. The vocal cords and carina were visualized,(figure 1d) and correct placement was confirmed by fiberoptic view, end-tidal CO_2, and bilateral chest auscultation. The tube was fixed at 26 cm.

General anaesthesia was induced with fentanyl 100 µg IV, propofol 140 mg IV, and Atracurium 40 mg IV. After 30 minutes, atracurium infusion (100 mg in 20 mL) was started at 4 mL/hr.

The surgery lasted approximately 8 hours. Estimated blood loss was 700 mL. One unit of packed red blood cells and 200 mL of colloid were transfused. Total intravenous fluids administered were 2400 mL, and urine output was 1100 mL. Capillary blood glucose was monitored two-hourly. A throat pack was placed once mouth opening was achieved (figure 2a) and removed at the end of surgery. Normothermia was maintained throughout the surgery with warmer.

Postoperatively, adequate mouth opening was achieved (figure 2b) and the patient was shifted to the ICU intubated, sedated, and paralysed. He was electively ventilated and extubated uneventfully after 12 hours.(figure 2c)

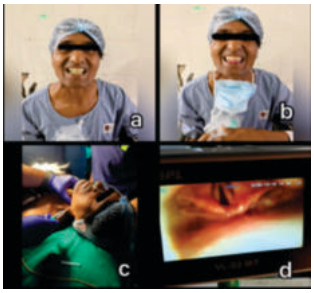

Figure 1: (a) Preoperative mouth opening (b) Preoperative MPC scoring (c) Superior laryngeal nerve block (d) Vocal cord visualization

DISCUSSION

Patients with advanced oral submucous fibrosis and complete trismus present a significant airway challenge. Awake fiberoptic intubation allows continuous spontaneous ventilation and reduces the risk of airway loss and hypoxia.

Awake FOI avoids the stimulation of oropharyngeal structures associated with direct laryngoscopy, but hypertension and tachycardia were commonly observed during insertion of the FOB through the vocal cords. [3]

Dexmedetomidine provides cooperative sedation with minimal respiratory depression, making it suitable for awake airway management. The use of regional airway blocks further improves patient comfort and suppresses airway reflexes. Long-duration maxillofacial surgeries necessitate vigilant monitoring to prevent complications such as hypothermia and hemodynamic instability.
This case reinforces the importance of thorough preoperative assessment, airway planning, and multidisciplinary coordination.

Figure 2 : (a) Intraoperative mouth opening (b) Post procedure mouth opening (c) Post extubation

CONCLUSION

In patients with bilateral oral submucous fibrosis and zero mouth opening, awake fiberoptic nasal intubation under dexmedetomidine sedation with regional airway blocks remains the safest and most effective method for airway management. Careful planning and vigilant perioperative management are essential to achieve optimal outcomes.

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