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Submucousal Fibrosis: The Anaesthesiologist's Guide to Taming the Difficult Airway

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Abstract: ***Oral submucous fibrosis (OSMF) is a progressive collagen disorder resulting in restricted mouth opening and airway challenges, particularly during anaesthesia. This case report discusses a 24 - year - old male with severe OSMF and a BMI of 32 kg/m² who presented with limited and painful mouth opening. Preoperative evaluation revealed a mouth opening of 1.5 cm and adequate neck movements. Due to anticipated airway difficulty, an awake fibreoptic intubation (FOB) strategy was employed. Preoperative preparation included airway topicalization with lignocaine and nerve blocks. On the day of surgery, the patient underwent FOB - guided nasal intubation using a 7.5 mm cuffed tube under sedation and local anaesthesia. General anaesthesia was maintained with oxygen, nitrous oxide, and sevoflurane. Delayed extubation was performed postoperatively with close monitoring. This case highlights the importance of thorough preoperative assessment, proper airway preparation, and awake FOB intubation for safe management of anticipated difficult airways in patients undergoing maxillofacial surgeries*** [(1).]

Keywords: Awake nasal intubation, fibre optic bronchoscope, restricted mouth opening, temporomandibular joint surgery, airway management

1. Introduction

Oral submucosal fibrosis is a collagen disease due to chronic irritation which leads to limited opening of the oral cavity. Severe cases of submucosal fibrosis are associated with difficulty in laryngoscopy and intubation. Awake FOB (Fibreoptic Bronchoscope) guided intubation and delayed extubation play a vital role in temporomandibular and reconstructive surgeries [(1).]

2. Case Report

24 - year - old male with BMI 32 kg/m² presented with restricted and painful mouth opening. Diagnosed with severe oral submucosal fibrosis. Patient was posted for excision of submucosal fibrosis with bilateral coronoidectomy with temporalis fascial cover and STSG (Split Thickness Skin Graft).

PREOP Management
General examination: Conscious and oriented; vitals stable. Airway examination: IDL – 1.5 cm, MPC – could not be assessed, adequate neck movements, neck flexion - extension present. Systemic examination: Within normal limits. Routine investigations: Within normal limits. Nasal patency test: Left nostril clear.

INTRAOP Management
On procedure day: Confirmed starvation, informed consent taken. Inj. Glycopyrrolate 0.2 mg IV given.
Oral gargling with 4 ml 4% lignocaine, nebulisation with 4 ml 4% lignocaine.
Patient taken into OT, monitors attached, Xylometazoline 2 drops in left nostril.
Inj. Midazolam 0.5 mg IV, Inj. Fentanyl 50 mcg IV.
Bilateral superior laryngeal nerve block with 2 ml 2% lignocaine each side.
Transtracheal injection: 2 ml 4% lignocaine.
FOB loaded with 7.5 mm cuffed North Pole Ivory tube passed across cords.
Tube connected, position confirmed, Inj. Propofol 60 mg + Rocuronium 50 mg IV.
Maintenance: O_2: N_2O (50: 50) + Sevoflurane + intermittent relaxants.

Delayed extubation: Patient reversed, shifted to AICU on T - piece with O_2.

3. Discussion

Discomfort from awake FOB intubation can be reduced by: Airway preparation. Topicalization via nebuliser, atomiser, sprays, gargling, transtracheal injection, nerve blocks, sedation.

Alternative airway options: Blind nasal intubation, Retrograde intubation, Tracheostomy

High Risk Extubation
- Extubation over bronchoscope
- Extubation over a bougie
- Airway exchange catheters and jet stylets

Goals and Expectation at Extubation
- Provide airway patency
- Ensure airway protection
- Aid ventilation

4. Conclusion

Awake fibre optic intubation under topical anaesthesia is ideal for securing the airway. Psychological and pharmacological preparation is crucial. Identification of difficult/high - risk extubation is vital in TMJ and reconstructive surgeries.

References

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