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Case report

ORAL SUBMUCOUS FIBROSIS: A SIMPLE APPROACH FOR INTUBATION

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ABSTRACT

When encountered with an anticipated difficult airway, we should be vigilant in our anaesthetic techniques and be prepared with an appropriate plan for airway securing. In OSMF cases fiberoptic being the gold standard, tracheostomy is the next choice in awake state. These procedures cause discomfort to the patient and scarring. This case report discusses the anaesthetic management of 32 yr old with OSMF for release and SSG where instead, local release of fibrotic bands under sedation and local anaesthesia facilitated direct laryngoscopy and thus airway securement. Thus this method avoids the discomfort associated with the above mentioned techniques and also can be done in circumstances of the non availability of fiberoptic.

Keywords Airway management, Direct laryngoscopy, Local release, OSMF

INTRODUCTION

Oral submucous fibrosis is a premalignant lesion of the buccal mucosa usually caused by chewing betel nut. It is characterised by the slowly progressive development of fibrous bands beneath the oral mucosa with secondary mucosal atrophy. It is widely accepted to be a collagen disease of insidious onset associated with chronic local irritation which will lead to limited opening of the oral cavity or inability to open the mouth due to which a patient can neither consume normal diet nor maintain good oral hygiene¹. OSMF causes difficulty in laryngoscopy and intubation of the trachea^{1,2}. Patients with OSMF require anaesthesia for trismus correction, resection or reconstructive surgery. OSMF it can cause difficulty in laryngoscopy and intubation or by causing trismus. In any ways OSMF patients have difficult airway. Here we present a case of OSMF successfully managed at BMCRI-SSH hospital with a direct laryngoscopy in case of non availability of fiberoptic.

CASE REPORT

A 32 yr old man, weighing 70 kgs, presented with a complaint of progressive inability to open the mouth since 6 yrs. He gave history of constant irritation of buccal mucosa due to his teeth and cheek bite unlike the usual history of chewing betel nut.

Past medical history was insignificant. Examination of the airway revealed a mouth opening of 1cm, thick fibrotic bands were palpable intra orally extending up to pterygomandibular raphe region and the inter incisor distance was 1cm. Complete intra oral and airway examination was not possible due to restricted mouth opening. A diagnosis of OSMF was made based on the history and the examination findings. He was subsequently posted for Resection of fibrotic bands and SSG. Since our institute did not have a fiberoptic Bronchoscope, a plan for release of fibrotic bands under local anaesthesia and then direct laryngoscopy was made failing which tracheotomy would be considered. The patient was explained about the procedure and

written informed consent was obtained for local release followed by intubation or tracheotomy. The patient was pre medicated on the previous night with Tab Alprazolam 0.5 mg for anxiolysis. On the day of surgery difficult airway cart was kept ready including that for emergency tracheotomy. In the operation theatre monitors were connected for continuous recording of heart rate, oxygen saturation, electrocardiogram, end tidal CO₂ and non invasive blood pressures.

IV Glycopyrrolate 0.2 mg was given intramuscularly as antisialogogue. A bolus of Inj Dexmedetomidine 1µ/kg was given over 10 mins and infusion was continued intraoperatively at the rate of 0.5µg/kg (11). 20 ml of 2% xylocaine with adrenaline was infiltrated into the bands. After 10 mins perioral fibrotic bands were released and mouth opening improved by 1cm. For induction of anaesthesia IV fentanyl 2µg/kg, thiopentone 5mg/kg and succinylcholine 1.5mg/kg were used. On direct laryngoscopy Cormack-Lehane grading was found to be 3. Patient was intubated with 8.0 cuffed endotracheal tube, ventilation checked and tube secured. Intraoperatively patient was maintained with Inj. Vecuronium and a mixture of Oxygen, Air and Isoflurane with stable intraoperative vitals throughout the surgical procedure. The fibrous bands were thoroughly released and split skin grafting was done. At the end of the procedure mouth opening was 2.5 cm. Muscle relaxation was reversed with Inj Neostigmine 0.05mg/kg and Glycopyrrolate 20 µ/kg and was extubated uneventfully.



Fig 1: Preoperative mouth opening

DISCUSSION

OSMF is a chronic condition of insidious onset that may affect any part of the oral cavity and sometimes pharynx, leading to stiffness of the oral mucosa causing

trismus^{3,4}



Fig 2: Postoperative mouth opening

OSMF typically affects the buccal mucosa, lips, retro molar areas, soft palate and occasionally pharynx and the oesophagus. The disease begins with glossitis, stomatitis and vesicle formation. Early lesions appear as a blanching of the mucosa, imparting a mottled, marble like appearance, whereas later lesions demonstrate palpable fibrous bands that render the mucosa pale, thick and stiff. Mobility of the tongue may be decreased. The faucillar pillars may become thick and short. Sometimes the condition spreads to the pharynx and down to the pyriform fossae. In severe cases, the patient may have difficulty in chewing, swallowing and speaking.

Difficult airway is commonly seen in OSMF. The airway should be assessed thoroughly and anaesthesiologists should be prepared for difficult airway. The resulting trismus and IID has been used to classify patients into mild (IID >20 mm) and severe (IID <15mm) OSMF⁵. This classification may be misleading for anaesthesiologists, as IID of at least 30 mm is required for direct laryngoscopy⁶ and patients with “mild OSMF” may still be difficult to intubate. The easiest and quick assessment of airway can be done with 1-2-3 rule. 1- Adequate mobility of TMJ can be assessed by the ability to insinuate one finger into the TMJ space in front of the tragus during opening and closing the mouth. 2- Adequate space between the jaws for introduction of a laryngoscope blade, facilitating exposure of the glottis and passage of the endotracheal tube can be assessed by the presence of at least 2cm of interincisal distance. 3- Thyromental distance of more than 3 finger breadth measured between the thyroid notch and the symphysis menti is used to evaluate the space available for displacement of the tongue during laryngoscopy and intubation⁷.

Preliminary laryngoscopy under anaesthesia is useful but should be reserved for patients with adequate mouth opening. Airway management mainly depends on expertise and available equipments⁸. Blind nasal, retrograde intubation, tracheostomy are the other choices with fiberoptic being the technique of choice⁹. Allen and Osman reported a case of OSMF in anaesthetic literature in which elective fiberoptic intubation was done¹⁰. This needs adequate preoperative preparation along with counselling of the patient. Tracheostomy is an alternative technique preferred and this is associated with complications like hemorrhage, subcutaneous emphysema, pneumomediastinum, pneumothorax, recurrent laryngeal nerve damage, infection, and stenosis and scarring. Here we have discussed intubating the patient with local release of fibrotic bands which will improve the mouth opening to a certain extent and thus avoiding the discomfort associated with awake fiberoptic intubation and the scarring and other complications of tracheostomy

Dexmedetomidine has analgesic, anxiolytic and antisialagogue properties^{12, 13}. It does not depress respiration and Spo₂ remains within normal limits if DEX is used in the dose range of 0.2 to 0.7 µg/kg/hr¹³. We typically use 0.5 µg/kg/hr because it is a mid-range dose for conscious intubation.

CONCLUSION

The characteristic feature of OSMF is extremely restricted mouth opening and distortion of airway rendering difficult intubation. Airway securing by the awake fiberoptic intubation may be the ideal method but in the situations of non availability of fiberoptic and to avoid the discomfort of awake intubation this method of local release of bands and direct laryngoscopy can be considered. Thus, this method abolishes the discomfort of awake intubation, tracheostomy scarring and is also cost effective.

Limitation: Though the above method was successful in our patient the same may not be reproducible in similar clinical presentations.

Conflict of Interest: None

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