Original Research Paper

Volume-9 | Issue-7 | July - 2019 | PRINT ISSN No. 2249 - 555X

Anaesthesiology

ANAESTHETIC MANAGEMENT OF BILATERALTEMPOROMANDIBULAR JOINT ANKYLOSIS POSTED FOR DISTRACTOR PLACEMENT.

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ABSTRACT **Introduction:** Temporomandibular joint (TMJ) ankylosis is a condition associated with limited to zero mouth opening. In addition to facial asymmetry, malocclusion, anemia& malnutrition, airway obstruction may be present. All these changes make not only intubation but ventilation also difficult.
Method: We are discussing a case of a 45 year old male patient who presented with inability to open his mouth for 30 years following history of fall.
Conclusion: In temporomandibular joint ankylosis, fibreoptic guided awake nasal intubation is a gold standard(if available), safer and better alternative to other techniques without any significant mortality and morbidity.

KEYWORDS : TMJ ankylosis, Difficult Intubation, Fiber optic intubation

INTRODUCTION:

TM JOINT: TM Joint is a bilateral diarthrodal joint in maxillofacial region. TM Joint is formed by bony articulation of mandibular condyle and the temporal bone.

TM JOINT ANKYLOSIS: TM Joint ankylosis is the condition where the mandible is fused to the fossa by bony or fibrotic tissues. This interferes with mastication, speech, oral hygiene. Trauma is the most common cause followed by infection. The management goal in TM Joint ankylosis is to increase the patient's mandibular function and to prevent reankylosis.

Patients with temporomandibular ankylosis present with a unique challenge during their anaesthetic management due to limited mouth opening. Temporomandibular Joint ankylosis is gradually developing condition manifested by mandibular hypo mobility, which is caused by bony or fibrous ankylosis.

CASE REPORT:

We are discussing a case of a 45 year old male patient who presented with inability to open his mouth for 30 years following history of fall from terrace, when he was 12 years of age. Patient underwent surgery for the same under general anaesthesia with fiber optic guided intubation. After the treatment for that his mouth opening was about 20 mm. In 5-6 month later in the post-operative period, he noticed that mouth getting closed gradually. After 7 years he underwent surgery for the same and his mouth opening was 30 mm. Again he noticed that, the mouth opening was fully restricted. Patient is having history of deafness in Left ear noted after 1st surgery and history of positional vertigo and tinnitus from the history of fall.

On examination:

Patient was conscious, afebrile, moderately built and nourished; vitally stable and systemic examination was normal including cardiovascular system and respiratory system. Bird face appearance noted.

Airway Examination revealed fully restricted mouth opening, maloccluded protruded teeth, nil movements at TM Joint, micrognathia, receding mandible and mallampatti can't be assessed.

All routine blood investigations along with ECG & 2D Echo were within normal limits. 3DCT Face showed Deviated Nasal Septum with bony septum towards left side. In audiogram, there was profound sensorineural Hearing loss in left side.

Patient was advised for morning nebulization with Lignocaine and Budecort, stand by call from ENT surgeon for Tracheostomy.

METHOD

On the day before surgery, patient was kept NBM for 10 hours prior to the surgery and explained about anaesthesia risk and informed written consent of ASA IV with ventilator support taken as the surgery will lasts for longer duration.

Patient shifted to Theatre, 18G iv cannula secured and iv fluids started, urinary catheter inserted. Difficult Airway Kit and emergency drugs were kept ready. Routine monitors including ECG, NIBP, IBP, SPO2, ETCO2 were attached and vitals noted.

Patients was premedicated with - Inj. Ondansetron 4mg iv, Inj. Glycopyrrolate 0.2mg, Inj. Fentanyl 50 ug iv. Airway preparation done by xylometazoline spray, **aerosol method** with lignocaine 4% nebulization and "**Spray As You Go"**_technique. Fiberopticscope passed with railroaded endotracheal tube through right nostril, after visualizing the glottis aperture, xylocaine 2% instilled through the sidearm of the fiberopticscope. Simple 8mm ID, high volume low pressure cuffed portex endotracheal tube was inserted, Bilateral air entry checked and confirmed with ETCO2, cuff inflated and tube fixed. Inj. Propofol 150mg iv given. Patient was maintained with O2+N2O+Sevoflurane with Non depolarizing muscle relaxant Inj. Vecuronium 4mg iv loading dose, 1mg iv incremental dose. Inj. Diclofenac 100mg iv and Inj fentanyl 150 ug iv in three divided doses, two hourly used for intraoperative analgesia. Distractor placement done and patient not reversed and not extubated, because distractor is in situ. There are chances of oozing, airway edema due to manipulation of airway soft tissues as a part of procedure which lasted for more than six hours. Therefore, patient shifted to ICU for mechanical ventilation. In ICU nebulization given 6 hourly and patient got extubated in 2nd post operative day in presence of anaesthetist and ENT surgeon. Patient was shifted to ward with distractor in situ.

DISCUSSION:

Causes of TMJ ankylosis includes trauma(most common), infection, congenital, malignancy etc.. Patients with temporomandibular ankylosis present with a unique challenge during their anaesthetic management due to limited mouth opening. In a patient with nil or limited mouth opening, intubation choices are blind nasal intubation, retrograde intubation technique via cricothyroid puncture or fibreoptic intubation and tracheostomy. Keeping this in mind, we decided to perform a fibreoptic guided intubation rather than a blind nasal intubation. And awake fiber optic scope guided nasotracheal intubation is the safest technique of intubation. For Blind nasal technique there will be a high failure rate, is potentially traumatic and in repeated attempts it may lead to edema and airway complications. It also requires experience and expertise. In retrograde intubation, we need patient's cooperation to pull out retrograde catheter which may not possible due to nil mouth opening and comparatively more incasive. Tracheostomy and cricothyroidotomy, both are reserved only for emergency situations.

CONCLUSION:

In temporomandibular joint ankylosis, fibreoptic guided awake nasal intubation is a gold standard(if available), safer and better alternative to other techniques without any significant mortality and morbidity.

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