

TEMPOROMANDIBULAR JOINT (TMJ) DISLOCATION DURING LMA INSERTION

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SUMMARY

We report a case of temporomandibular joint dislocation during LMA insertion under general anaesthesia, in a 65-years old male patient who underwent anal dilatation and rectal biopsy as a day care case. Jaw thrust manoeuvre was used when standard technique of LMA insertion failed. Temporomandibular joint dislocation was recognized at the end of surgery only after removal of LMA. Dislocation was reduced at the same time without any residual sequela. Patient did not have any past history of temporomandibular joint dysfunction.

Keywords : Equipment; Laryngeal mask airway, Complications; Temporomandibular joint dysfunctions, Jaw thrust manoeuvre.

Introduction

The jaw thrust manoeuvre has been described as an alternative technique for laryngeal mask airway (LMA) insertion and practiced when standard technique fails.¹ This manoeuvre eliminates the down folding of epiglottis, which is a major cause of airway obstruction during LMA insertion. The forward thrust on the mandible given by the anaesthesiologist may be a risk factor for dislocation of the temporomandibular joint during LMA insertion. We report a case of TM joint dislocation during LMA insertion using jaw thrust.

Case report

A 65 year old male, ASA I patient, weighing 65 kg, a follow up case of carcinoma prostate with rectal mass was scheduled to undergo a rectal biopsy and anal dilatation under general anaesthesia on a day care basis. History, physical examination and laboratory evaluations were normal and non-contributory. The mouth opening, neck movements were adequate and airway was graded as Mallampatti class I.

Anaesthesia was induced with inj. fentanyl 1 mkg⁻¹ and inj. propofol 2 mgkg⁻¹ followed by brief ventilation with isoflurane 2% and nitrous oxide 50% in oxygen using circle absorber. A completely deflated and lubricated size 4 LMA was introduced by standard technique but resistance was encountered past tongue. The assisting

anaesthesiologist lifted the jaw anteriorly by pushing the angle of mandible. This manoeuvre made LMA insertion easier and resistance free. LMA cuff was inflated and fixed with adhesive plaster. But, LMA remained freely mobile in the oral cavity, normally LMA tube gets clenched between teeth. Anaesthesia was maintained with isoflurane 1% and nitrous oxide 60% in oxygen and ventilation was assisted. Succinylcholine 50 mg was given intravenously to facilitate anal dilatation. The surgery lasted for 15 min and was uneventful. Once the patient regained spontaneous breathing, laryngeal mask airway was removed in deep plane of anaesthesia. After removal of LMA, the patient's mouth lay open and could not be closed even with firm pressure. A bilateral temporomandibular joint swelling was noted and dislocation was suspected. As the patient was still under anaesthesia, we reduced the dislocation. Two clicks were heard one after other as dislocation was corrected and the mouth could now be closed but patient started obstructing his airway. Jaw was pulled anteriorly again to maintain airway. Patient was administered 100% oxygen till consciousness was regained. On emergence from anaesthesia the jaw movement were adequate and complete without any pain. On retrospective evaluation, patient did not have any history suggestive of TM joint subluxation or dislocation. The radiographic evaluation was planned but patient went home on the same day and did not turn up on the required date.

Discussion

Temporomandibular joint (TMJ) dysfunction is a common side effect of airway manipulation particularly in an anaesthetised patient. Dislocation can occur during laryngoscopy,¹ transoral fiberoptic bronchoscopy² and intubation with lighted stylet.³ Lipp et al found 66% incidence of minor abnormalities in a survey of 50 patients of direct laryngoscopy with no occurrence of

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permanent TMJ injury.¹ TM joint dislocation has been reported to occur after oral airway and nasogastric tube placement in an intubated patient.⁴ Jaw thrust maneuver has been used to clear the airway and is recommended for LMA insertion^{5,6} and to assess the adequacy of the depth of anaesthesia for LMA insertion.⁷ Though no significant TM joint dysfunction has been reported during LMA insertion but in this case anterior dislocation occurred while using jaw thrust maneuver.

In the present case, jaw thrust maneuver was used for LMA insertion when standard technique failed which led to anterior dislocation of TM joint. The dislocation could not be recognized at the time of LMA insertion but free mobility of LMA in the oral cavity would have been an alarming sign of TM joint dislocation. Normally, tongue and pharyngeal tissue compresses the LMA cuff and tube, which gets clenched between teeth to restrict its mobility. LMA was removed in deeper plane of anaesthesia and patient maintained his airway with mouth open. We recognized anterior dislocation with fixed open jaw and swelling over parotid region. Since the patient was still in a deeper plane of anaesthesia, we reduced the dislocation by pushing both the condyles downward and backward from outside unlike the method described by Lewis et al.⁸ Patient developed airway obstruction after reduction of TM joint due to reduced muscle tone and approximation of the soft palate, base of tongue and epiglottis to the posterior pharyngeal wall.⁹ Again, jaw thrust was applied to clear the airway. If LMA is removed in the lighter plane of anaesthesia, clenching and biting effort can cause damage to the TM joint and rarely auricular nerve. In addition, TM joint reduction will require supplementation of anaesthesia.

Most of the patients who developed TM joint dislocations have had past history of joint dysfunction or difficult airway.^{2,10} But, it may occur even in normal TM joint if vigorous jaw thrust was applied. The present case was having normal airway and no history of joint dysfunction in the past. Radiological study would have been more informative but unfortunately could not be done.

In conclusion, we would like to draw attention to the fact that the jaw thrust manoeuvre can cause TM joint dislocation during LMA insertion even in previously normal functioning joint. The free mobility of LMA in the oral cavity, and maintenance of airway in deep plane of anaesthesia without support may be a clue for TM joint dislocation. We recommend that one must check TM joint mobility after LMA removal to rule out any possibility of joint dysfunction. Also, early reduction of dislocation will avoid various complications after operation like hematoma, displacement of meniscus and rarely damage to the auriculotemporal nerve.

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ANNOUNCEMENT

Dear Members,

In order to utilize optimally the spaces available in the journal and also to provide useful information to all our readers, newer sections on **Applied Anatomy, Applied Physiology, History, Physics, Medico legal hints, How I do it**, etc. have been started. Brief writeups on any of the above topics are invited.

– Editor