

Temporomandibular joint dislocation following trans-oesophageal echocardiography probe insertion

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We report a case of a 32-year-old male with the diagnosis of recurrent right cerebellar convexity meningioma scheduled for occipital craniotomy in sitting position. He was apparently well 6 months back when he

complained of headache, vertigo along with asymmetry of face, decreased hearing on right ear and gait ataxia. He underwent craniotomy surgery for the same, 8 years back. After one year, he received gamma knife treatment for the recurrence. His preoperative vitals were stable and airway examination showed no significant finding. On cranial nerve examination, his gag and cough reflex were found to be impaired. His routine investigations were within normal limits and medical and surgical history was unremarkable.

General anaesthesia was induced with fentanyl 100 mcg, propofol 100 mg and rocuronium 50 mg. Intubation was performed with flexometallic tube anticipating flexion of neck. Apart from routine monitors, a central venous line, arterial line and trans-oesophageal echocardiography (TEE) (Phillips ultrasound system, model iE33, Bothell WA, USA) probe was inserted post-intubation. To facilitate the

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TEE insertion, mandibular thrust was given by the technician. Four-chamber view was achieved and TEE probe was secured at 30 cm. The surgery lasted for 7 hours and intraoperative course remained uneventful. He was shifted to intensive care unit with endotracheal tube *in situ*. His trachea was extubated on the first postoperative day uneventfully. On the second postoperative day, he noticed a swelling on the left side of the jaw associated with pain and difficulty in closure of mouth. A call was sent to Orthodontic experts for their opinion. Their clinical examination revealed left temporomandibular joint dislocation. This dislocation was reduced manually by the orthodontic experts. A soft diet was advised for 5 days along with analgesics. He was shifted to ward on third postoperative day with complete relief.

The newer diagnostic modalities have enhanced the safety profile of neuro-anaesthesia practice and TEE is one such valuable tool. Its intraoperative use during surgery in sitting position enhances the detection and management of venous air embolism. Various complications are reported with TEE use such as dental injuries, odynophagia, pharyngeal abrasion, upper gastrointestinal haemorrhage and oesophageal perforation.^[1,2]

Here we are reporting an uncommon complication of temporomandibular joint (TMJ) dislocation associated with the use of TEE during surgery in sitting position under general anaesthesia. However, iatrogenic TMJ dislocations have also been reported after laryngeal mask airway insertion,^[3] endotracheal intubation,^[4] dental procedure,^[5] and gastrointestinal endoscopy.^[6] Domino *et al.* in their study on airway injuries during anaesthesia, found that TMJ injuries accounted for 10% of airway trauma claims and were associated with routine tracheal intubation in all cases.^[7] Although TMJ dislocation is an uncommon complication of TEE, there has been a case report in a patient posted for direct current (DC) cardioversion under sedation.^[8] However such complication under general anaesthesia has never been reported.

In our case report, the possible causes that have led to this complication could be the initial mandibular protrusion to facilitate TEE probe passage through oropharynx or the use of muscle relaxant during general anaesthesia. While the sitting position was a surgical requirement, it may also have resulted in pulling over mandible due to TEE probe weight especially during long duration of surgery. Our case is a reminder of this potential complication with the use of TEE. Assessment of TMJ in the preoperative period as well as post surgery should be looked for any anomaly especially when TEE is used intraoperatively.

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