Non-operating room anaesthesia and difficult airway management in a case of ectopic lingual thyroid planned for magnetic resonance imaging

Sir,

A five-year-old 19 kg female child diagnosed with an ectopic lingual thyroid with subclinical hypothyroidism was planned for a contrast-enhanced magnetic resonance imaging (MRI) of the neck for further evaluation under sedation. She was on follow-up for seizure disorder on tablet sodium valproate since 20 months of age and had an additional complaint of a swelling at the back of the tongue noticed around a month back. There was a history of the child preferably sleeping in lateral or prone position. Airway examination revealed a globular mass at the base of tongue visible on tongue protrusion [Figure 1a]. Neck X-ray lateral view showed an irregular shadow at the base of the tongue with the backward displacement of epiglottic shadow [Figure 1b].

On the day of the procedure, after appropriate counselling of the child, an intravenous catheter was secured facilitated by the application of EMLA™ cream. Tip of the tongue was topicalised with lignocaine 10% spray and 20 µg inj fentanyl was given intravenous (IV). While the parents held the patient comfortably, a stay suture was taken with a silk 2-0 suture at the tip of the tongue with a margin of 1 cm to prevent tongue fall [Figure 2]. Both the ends of suture were left outside the mouth. Emergency cricothyroidotomy equipment was kept ready before starting the procedure. Patient was shifted on the patient table of machine in the parents’ presence. MRI compatible pulse-oximetry and electrocardiography monitor were applied. Humidified oxygen was given at 4 L/min using a nasal cannula. IV propofol was given in aliquots till deep sedation was achieved and maintained at 50–75 µg/kg/min using a compatible infusion pump. Both ends of the suture thread were gently pulled and fixed using adhesive tape in such a manner that tip the of the tongue covered the vermilion border of the lower lip. Patient’s respiratory movements were monitored throughout by visual examination and trans-thoracic impedance monitor with the aim to maintain spontaneous breathing. The procedure lasted for around 20 min, and the patient regained consciousness within 3–4 min of stopping the infusion. The suture was pulled out at this time and the child was observed in the recovery area for 1 h. She was discharged home in the evening uneventfully. Appropriate consent was obtained from the legal guardian of the patient for presenting this case report and related pictures in academic forums and journals.

Numerous diagnostic and therapeutic procedures are now being performed outside the operation theatre constituting non-operating room anaesthesia (NORA). Paediatric NORA requires more immobility and deeper levels of sedation for children who cannot endure the long and/or uncomfortable procedures. Sedation is a continuum, and it is not always possible to predict the response of an individual patient. Thus, practitioners should be ever ready and able enough to rescue the airway in those patients in whom the level of sedation becomes deeper than intended, and may require
assistance in maintaining a patent airway and/or adequate ventilation.

The options in the present case for keeping the airway patent, such as oropharyngeal airway, nasopharyngeal airway or supra-glottic airway devices were not feasible due to the presence of the swelling and risk of trauma or bleeding from it [Figure 1]. Direct laryngoscopy and intubation were also expected to be difficult. Using ketamine for sedation might have been a safer option considering the airway control, but it was avoided due to the presence of a pre-existing seizure disorder. Tongue lip adhesion\(^4,5\) is an established technique of keeping the airway patent in patients with congenital deformities, including Pierre-Robbin syndrome where there are glossoptosis and micrognathia leading to upper airway obstruction. Similarly in surgical cleft palate repair, stay sutures may be taken on tongue for the control of airway at the conclusion of surgical procedure. In the present case, it may have been prudent to remove the tongue suture after a period of observation in the recovery room instead of removing it immediately after the child regained consciousness.

The described technique may be practised in this subset of difficult airway cases presenting for NORA for safer airway management, to avoid airway-related mishaps and complications, especially when far from the operating room or an established anaesthesia setup.

**Declaration of parental consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the guardians have given their consent for patient’s images and other clinical information to be reported in the journal. The guardians understand that patients’ names and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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Medical adhesive-related skin injuries caused by taping of the eye using acrylic-based adhesive tapes in prone surgery: A case report

Medical adhesive-related skin injuries (MARSI) is a newly coined term, defined as 'an occurrence in which erythema and/or other manifestations of cutaneous abnormality (including, but not limited to, vesicle, bulla, erosion or tear) persists 30 min or more after removal of the adhesive'.

MARSI has been classified as mechanical (caused by shear force while removing tape), dermatitis (allergic or non-allergic) and others (maceration or folliculitis). A PubMed search with the keywords 'marsi anaesthesia' yielded just two case reports.

We report the occurrence of MARSI due to taping of eyes with an acrylic-based adhesive in an elderly female who underwent lumbar spine surgery in the prone position.

A 67 years old female was taken up for laminectomy at L4–L5 level. She was a known case of hypertension for the last 5 years presently on oral amlodipine 10 mg q 24 h. After shifting the patient to the operation theatre, standard American Society of Anesthesiologists monitors were attached and induction of anaesthesia was done. Her eyes were taped with Durapore® (3M, United States) and the patient was turned prone, with head supported in a prone pillow (TruLife Oasis Elite Prone Head Rest; Universal medical, US). The patient remained normothermic intraoperatively and her haemodynamic parameters remained within normal limits. The total duration of surgery was 2 h. She was turned supine at the end of the procedure.

Upon removing the Durapore® tape covering the inferior margin of the right eye of the patient, around 4 cm long strip of skin got peeled off with the tape and the wound started to bleed. After applying compression for 5 min, the bleeding stopped and the wound was cleaned with saline. Thereafter, an antibacterial ointment was applied over the wound and a non-adhesive foam dressing was done. The patient was extubated and wheeled out to the post-anaesthesia care unit (PACU). Thereafter, we explained the patient and her attendants regarding the wound. The wound healed by primary intention over 5 days.

Taping the eyelids closed prevents corneal abrasions. However, the skin over the face and especially eyelids is thin and hence more predisposed to MARSI.

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