Sir,

Orofacial abnormalities in children may be associated with difficult mask ventilation and intubation.[1] Hereby, we report safe airway management in an infant with type 7 Tessier syndrome with orofacial cleft and macrostomia. A 10-month-old male infant, weighing 10 kg was scheduled for bilateral macrostomia correction under general anesthesia. On examination, the lateral clefts extended to the anterior border of the masseter on either side [Figure 1a].

On the scheduled day of surgery, he was premedicated with midazolam 2 mg and fentanyl 10 µg intravenously which allowed easy parental separation and face mask acceptance. Under standard monitoring, sevoflurane in 100% oxygen was insufflated through Ayer’s T-piece attached with a large adult mask. The mask covered the lateral clefts but did not allow a snug fit. This drawback was compensated by setting oxygen flow at 10 L/min to allow delivery of the anesthetic agent. Once the adequate depth of anesthesia was achieved, as evidenced by regular shallow spontaneous breathing with loss of muscle tone and after reaching a minimum alveolar anesthetic concentration of 2.5, a proseal laryngeal mask airway (PLMA) of size 1.5 was inserted [Figure 1b]. The spontaneous breathing was maintained and oxygen saturation stayed at 100% throughout. The patient was then paralyzed with vecuronium 1 mg and then ventilation was controlled. Subsequently, laryngoscopy revealed a glottic view of Cormack-Lehane grade 3 which improved to grade 2 with optimal external laryngeal manipulation. Nasotracheal intubation was achieved with a size 3.5 reinforced endotracheal tube, with the assistance of a pediatric tracheal tube introducer. Further course was uneventful and the infant was extubated once awake.

Difficulty in mask ventilation in patients with facial cleft syndromes was managed earlier using adult size face mask by filling the cleft with surgical gauze pieces as in case of unilateral facial cleft,[2] laryngeal mask airway primarily as a conduit to tracheal intubation,[1] and by covering the defect with custom-made mold.[3] In our case, we used LMA instead of face mask to achieve effective ventilation prior to intubation. Effective ventilation ensures adequate oxygen reserve before attempting intubation and especially essential as these cases may be associated with potential risk of difficulty in intubation. Though gauze packing of the cleft seems to be a simple technique to choose, if one encounters a difficulty in intubation, recreating the seal again and to start effective ventilation may require considerable time with the risk of inducing hypoxia. The only limitation of the technique will be risk of inducing laryngospasm if depth of anesthesia is inadequate for LMA insertion. This was avoided in our case by ensuring that the end-tidal concentration of sevoflurane was more than the end-tidal concentration required for safe LMA insertion.[4]

To conclude, combination of use of adult size face mask, maintaining spontaneous ventilation while administering sevoflurane anesthesia prior to achieving effective laryngeal mask seal, and use of LMA to ensure effective lung ventilation prior to intubation have facilitated the safe airway management in an infant with type 7 Tessier syndrome.

**Declaration of patient consent**

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

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

---

**Figure 1:** Airway management of an infant with type 7 Tessier Syndrome. (a) Infant showing bilateral orofacial cleft with macrostomia. (b) Laryngeal mask airway was used to facilitate ventilation prior to intubation.
Sakthirajan Panneerselvam, Ranjith K. Sivakumar, Chrishanthi A. Joseph, Sivaraman Pounraj
Department of Anaesthesiology and Critical Care, JIPMER, Puducherry, India

Address for correspondence:
Dr. Ranjith K. Sivakumar,
Department of Anaesthesiology and Critical Care, JIPMER, Puducherry - 605 006, India.
E-mail: ranji.12.03@gmail.com

Submitted: 22-Sep-2019, Accepted: 24-Sep-2019, Published: 05-Mar-2020

References

1. Ramachandran R, Rewari V, Kumar A. Difficult airway management in an infant with bilateral Tessier number 4 cleft. Acta Anaesth Belg 2014;65:77-80.
2. Kumar K, Ninan S, Saravanan P, Prakash KS, Jeslin L. Airway management in an infant with Tessier N. 4 anomaly. J Anaesthesiol Clin Pharmacol 2011;27:239-40.
3. Veerabathula P, Patil M, Upputuri O, Durga P. Simple solution for difficult face mask ventilation in children with orofacial clefts. Pediatr Anesth 2014;24:1106-8.
4. Aantaa R, Takala R, Muittari P. Sevoflurane EC50 and EC95 values for laryngeal mask insertion and tracheal intubation in children. BJA 2001;86:213-6.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article: Panneerselvam S, Sivakumar RK, Joseph CA, Pounraj S. Laryngeal mask airway to facilitate ventilation prior to intubation in an infant with type 7 Tessier syndrome. Saudi J Anaesth 2020;14:289-90.

© 2020 Saudi Journal of Anesthesia | Published by Wolters Kluwer - Medknow