

Airway management in a pediatric patient with glottic web: An anesthetic challenge in non-operating room anesthesia

Dear Editor,

Pediatric airway differs from adult airway in many aspects, which makes securing a definitive airway difficult, especially in non-operating room settings, where difficult airway carts and assistance are often not readily available. The congenital glottic web is a rare anomaly with an incidence of 1 in 10,000 births. The clinical presentation often varies, ranging from asymptomatic to severe respiratory stridor.^[1] We report a case of congenital vocal-cord membrane, who desaturated after sedation in the computed tomography (CT) room and was managed successfully with tracheostomy.

An 18-month-old, 11 kg, 80 cm, term female child was brought by her parents with the complaint of difficulty in phonation since birth. She had weak cry, with no history of difficulty breathing

or swallowing. Non-contrast CT of the neck was planned under sedation. Following sedation with 10 mg ketamine, the infant had airway obstruction and went into apnea. After two failed attempts of intubation, with size 4.00 mm endotracheal tube in the CT room, the patient was shifted to the operating room on bag-mask ventilation for securing a definitive airway. Tracheostomy consent was obtained from the parents. In the operating room, all monitors were attached according to ASA standards and her vitals were normal. The baby was induced with sevoflurane. An intubation attempt was done using a video laryngoscope (Karl Storz C mac blade 2) first with a 3.5 mm and then with a 3 mm micro-cuffed endotracheal tube but could not be negotiated through the glottic opening. Finally, the airway was secured with a 2.5 mm uncuffed endotracheal tube, which barely crossed the glottis but was enough for maintaining ventilation. The video laryngoscope showed a glottic web [Figure 1]. Tracheostomy was performed using a 3.5 mm cuffed tracheostomy tube, and its position was confirmed with a 2.5 mm external diameter fiber-optic bronchoscope. With stable vitals, the patient was transferred to a pediatric intensive care unit and was discharged on day 2 with the tracheostomy tube in place, followed by laryngeal keel insertion after a month.

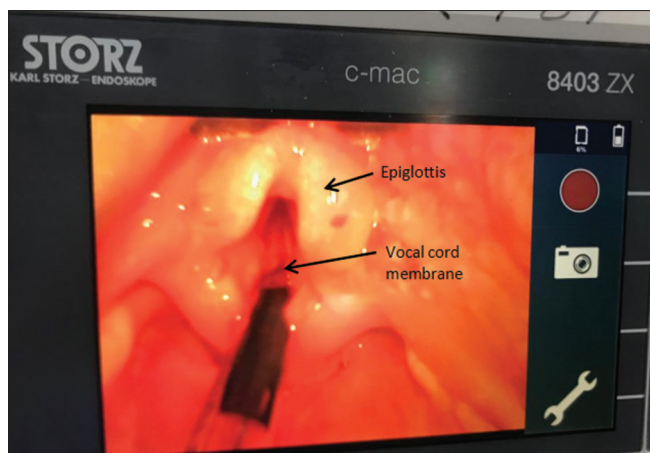


Figure 1: Video-laryngoscopy showing vocal cord membrane

Providing anesthesia services at remote locations such as CT rooms, magnetic resonance imaging suites, and DSA suites is challenging even for experienced anesthetists owing to the lack of resources and space; the pediatric airway adds to this.^[2] In children with difficulty of phonation, sedation should be given cautiously and only after thorough pre-operative examination, planning, and preparation as they are prone for desaturation and securing a definitive airway can be difficult, especially in a non-operating room. Various sedative agents as dexmedetomidine, midazolam, and ketamine have been tried for sedation in non-operating room settings. Their use depends on patient conditions and clinical experience of anesthesiologists.^[3,4] Difficult airway carts with a video laryngoscope, a fiber-optic bronchoscope, and surgical airway devices should be ready, and consent for surgical airway should be taken beforehand as these children are more prone for “cannot intubate cannot oxygenate,” for which surgical airway access is mandatory, which can be challenging in emergency scenarios, especially in a pediatric population.^[5]

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.

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Conflicts of interest

There are no conflicts of interest.

**Priyanka Sethi, Balakrishnan Narayanan¹,
Deepanshu Dang, Kamlesh Kumari**

Department of Anaesthesiology and Critical Care, All India Institute of Medical Sciences, Jodhpur, Rajasthan, ¹Department of Anaesthesiology and Critical Care, Madras Medical Mission Hospital, Chennai, Tamil Nadu, India

Address for correspondence: Dr. Deepanshu Dang,
PG Hostel Room No: 413, AIIMS Residential Complex,
AIIMS Jodhpur, Rajasthan, India.
E-mail: dangdeepanshu94@gmail.com

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