Use of video laryngoscope in a difficult paediatric cleft palate airway: Rescue or primary airway device?

Sir,

An 8-month-old female baby weighing 7 kg with a 1.2 cm wide cleft palate was scheduled for a palatoplasty. History and physical examination were insignificant. On airway assessment, mandibular contour, mouth opening and neck movement were normal. There were no other dysmorphic features.

On the day of the surgery, fasting status was ensured and a difficult airway cart was kept on standby. In the operating room, the child was pre-oxygenated with a Hudson mask, while connecting the monitors. Intravenous access was secured after inhalational induction with sevoflurane with spontaneous breathing. As check mask ventilation was possible, neuromuscular paralysis was achieved with atracurium 0.5 mg/kg with the intent to begin with conventional direct laryngoscopy using a Miller straight blade size one. It revealed a Cormack–Lehane grade three. The first attempt was unsuccessful despite optimisation of positioning and glottic view using external laryngeal manipulation. Further intubation attempts (by a more experienced paediatric anaesthesiologist) were made by size 2 Mcintosh blade, with a stylet. However, none of them was successful as no part of the glottic opening could be visualised. By this time airway became further obscured, due to slight bleeding from airway mucosa. As help was called for, a laryngeal mask airway of size 1.5 was placed to re-strategise and plan for further options. Anaesthesia depth was maintained throughout the process. Meanwhile, a McGrath video laryngoscope size 1 was arranged and one last effort was made for intubation before abandoning the procedure and awakening the patient. Visualisation with the video laryngoscope (VL) was better and we inserted a bougie into the lower part of the just visible glottis. A size 4.0 flexometallic endotracheal tube (ETT) was railroaded over it. The tube was secured after confirming the placement by auscultation and capnography. Anaesthesia was maintained with sevoflurane and intermittent intravenous atracurium and fentanyl. The subsequent intraoperative course was uneventful and vitals were stable throughout. At the end of the surgery, throat packs were removed and the oropharynx inspected for any residual blood clots and oozing. Neuromuscular blockade was reversed with neostigmine and glycopyrrolate and trachea was extubated once the child was fully awake with return of airway reflexes. The baby was monitored in the postoperative unit and maintained oxygenation throughout the stay.

Incidence of difficult airway in children with cleft palate has been estimated to be up to 10% of all cases.\textsuperscript{[1]} In most cases airway management proceeds as routine, unless complicated with other syndromic associations which warrant more comprehensive difficult airway preparation.\textsuperscript{[2]} In the present case, after the initial failed attempts at intubation, the airway visualisation became progressively more difficult due to the bleeding mucosa. At this point, airway management is very crucial. The decision to proceed with other advanced airway options or to awaken the patient is difficult, as even the latter may not be successful after the airway becomes obscured. Hence, one final attempt with a VL was made after stabilising the patient with the aid of a supraglottic airway device, which was fortunately successful.

Although much more widely available, the use of VL in paediatric airway is still limited and it is mostly being used as a rescue device.\textsuperscript{[3]} Another issue is that with VL the image is highly magnified, which makes it difficult to decide the optimal ETT size. Even if selected based on formulas, it may not be the optimum size for the patient. VL in comparison to a conventional laryngoscope provides a better view by improving the angulation.\textsuperscript{[4]} The usefulness and efficiency of airway assistants also increases with VL as glottic visualisation is accessible to everyone rather than just the primary intubator. Considering the sensitive nature of paediatric airway mucosa,\textsuperscript{[5]} and potential to dynamically worsen with each subsequent conventional attempt, VL should perhaps be used as the first line approach in such anticipated difficult airways. Also, management of such cases demands a multidisciplinary team approach including an experienced paediatric anaesthesiologist.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form, the legal guardian has given his consent for images and other clinical information to be reported in the journal. The guardian understands that 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
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