Frova saved the day!!

Sir,
A 5-year-old male child weighing 17 kg, a known case of bronchial asthma, brought intubated to our hospital, with history of extubation failure twice, was posted for airway assessment. The patient had a 3.5-mm ID uncuffed endotracheal tube (ETT) in situ. Previous attempts at extubation had resulted in bradycardia, respiratory distress and reintubation.

The difficult airway trolley was kept ready including smaller size endotracheal tubes, Frova® 8 Fr intubating introducer along with the usual armamentarium. The patient was ventilated using closed circuit with 100% oxygen and sevoflurane at 3 vol% and administered Inj. glycopyrrolate 80 µg, Inj. fentanyl 20 µg and Inj. ketamine 20 mg, intravenously. The otorhinolaryngologists visualised the trachea by inserting a Hopkins rod telescope through the ETT. The trachea showed erosions and denuded cartilage probably due to intubation trauma. In order to visualise vocal cords (VC) movements and subglottic region, we removed the ETT after inserting a Frova introducer through it into the trachea [Figure 1]. The patient was oxygenated during airway examination using the 15 mm Rapifit connector and Jackson Rees circuit. There was B/L abductor VC palsy with substantial edema of false and true VCs. A decision for tracheostomy was taken and the patient was reintubated with 3.5-mm ID ETT by railroading over the Frova after muscle relaxation using atracurium.

Airway assessment using rigid or flexible bronchoscopy in a child with respiratory comorbidities and difficult airway poses a double whammy which needs timely intervention and backup contingencies. Frova® intubating introducer (Cook Medical, Bloomington, USA) is a single use tracheal tube introducer which comes with two Rapifit connectors, 15 mm and Leur lock. The Difficult Airway Society and All India Difficult Airway Association (AIDAA) guidelines recommend early use of such devices in cases of difficult intubation. The appropriate placement of the device can be confirmed by applying end tidal carbon dioxide measurement due to the hollow nature of the device. In our case, we used the 8Fr Frova with 1.6 mm ID, 35 cm length which can be used for placement of ETT with ID 3 mm or larger. It not only served as a guide for intubation but also enabled us to carry out airway examination while effectively oxygenating the patient. Another option would have been the use of High Flow Humidified Nasal Oxygenation after removal of ETT during airway assessment as well as tracheostomy. There are reports of use of Frova as an intubation aid in paediatrics however, we did not find any literature on the use of Frova as a means of oxygenation during airway procedures in children. The use of intubating aids is also fraught with complications such as airway trauma, bleeding, avulsions particularly if not introduced under vision.
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.

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Figure 1: Endoscopic view: (a) Subglottic region with Frova in situ, (b) glottic region with Frova in situ

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