Airway topical anesthesia using the Airtraq[®] laryngoscope in patients with difficult airways

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To the Editor,

The Airtraq[®] laryngoscope (Prodol Meditec S.A., Vizcaya, Spain) is a new disposable optical laryngoscope designed to facilitate orotracheal intubation in an uncomplicated or difficult airway. Its distinctive shape and optical system can provide a full view of the glottis without the need to align oral, pharyngeal, and laryngeal axes. Previous studies have suggested that the device is both effective and easy to use in anesthetized patients with normal and difficult airways.^{1–4} We describe our initial experience with a method of airway topical anesthesia for awake tracheal intubation in adult patients with difficult airways using a combination of an Airtraq[®] laryngoscope and a MADgic[®] laryngotracheal atomizer (MAD-LTA) (Wolfe Tory Medical Inc., Salt Lake City, UT, USA) (Fig. 1).

First, the patient's oral cavity and posterior pharynx were anesthetized with atomized lidocaine in the preoperative holding area. In the operating room, fentanyl 1.5 mg · kg⁻¹ and a low dose of midazolam were administered intravenously to achieve the desired level of sedation.⁵ A 5-mL Luer-locked syringe prefilled with 2% lidocaine was then connected to the applicator portion of the MAD-LTA. The distal end of the applicator portion was bent anteriorly to an angle of 70–80° to correspond with the distal curvature of the Airtraq[®] laryngoscope. Next, an Airtraq[®] laryngoscope without the endotracheal

tube was passed into the patient's mouth over the tongue in the midline. Once the distal end of the Airtraq[®] laryngoscope was positioned in the vallecula with the glottis in the center of the viewfinder, the curved applicator portion of a MAD-LTA was advanced through the lateral channel of the Airtraq[®] laryngoscope. By adjusting the distant position of the applicator portion under direct vision on the viewfinder, its tip was placed immediately superior to the glottis and the bilateral pyriform recess. Then, 3 mL of 2% lidocaine was sprayed in three aliquots onto these targeted areas with the MAD-LTA. This procedure was repeated within 3–5 min, but the applicator portion was advanced into the trachea with the tip positioned approximately 1 cm below the glottis. During inspiration, 3 mL of 2% lidocaine was sprayed into the trachea. After an additional 3 to 5-min period, awake orotracheal intubation was performed with the Airtraq[®] laryngoscope according to the technique previously described.¹

Based on our preliminary experience in 15 adult patients with known difficult airways (due to micrognathia, a short neck, and/or limited head and neck movement), several advantages appear to exist with this technique. First, because the Airtraq[®] laryngoscope has a wide lateral channel, the applicator portion of the MAD-LTA can well be adapted to the curved blade of the Airtraq[®] laryngoscope. Also, the tip of the MAD-LTA can be directed easily towards the different targeted airway structures by adjusting its distal position under the superior vision of the airway provided by the Airtraq[®] laryngoscope. Second, this approach can provide excellent airway topical anesthesia for awake orotracheal intubation, because the MAD-LTA can provide effective atomized lidocaine solution to the airway mucosa.^{5,6} Third, this technique is well tolerated by the awake, sedated patient, possibly due to less stimulation of the oropharyngolaryngeal structures during the

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Fig. 1 **a** A combination of an Airtraq[®] laryngoscope and a MADgic[®] laryngotracheal atomizer. **b** The curved applicator portion of a MADgic[®] laryngotracheal atomizer was advanced through the lateral channel of an Airtraq[®] laryngoscope until its tip was positioned at the targeted area. Then, 2% lidocaine was sprayed with a MADgic[®] laryngotracheal atomizer

laryngeal exposure using the Airtraq[®] laryngoscope, as it does not require a 'line of sight' to visualize the airway anatomy. Fourth, this technique is easy to perform. Therefore, we believe this technique can provide a favorable alternative to a fiberoptic technique for the management of difficult airways.

Competing interests None declared.

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