Orotracheal Intubation with a Nasal Ring-Adair-Elwyn Tube Provides an Unobstructed View in Otolaryngologic Procedures

To the Editor.—Nasal Ring-Adair Elwyn (RAE) endotracheal tubes have been used in orofacial surgery to provide an unobstructed view of the surgical field. Although nasal RAE endotracheal tubes are designed for nasotracheal intubation, they may be used for orotracheal intubation, because their basic structure is similar to that of regular endotracheal tubes. The use of nasal RAE tubes in orotracheal intubation provides not only a secure airway but also better exposure of the surgical field in procedures involving the head and neck. Their preformed curvature diverts the connecting end of the endotracheal tubes away from the surgical field.

The advantage of using nasal RAE tubes instead of oral RAE tubes or regular endotracheal tubes becomes clear in cases of otolaryngologic procedures including direct laryngoscopy and bronchoscopy under general anesthesia. These surgical procedures often require orotracheal intubation established with a small-size tube, usually 6.0 mm ID or smaller. An oral RAE tube of 6.0 mm ID would be rather short for an average adult patient (the distance from the tip to the preformed curvature is only 17 cm). On the other hand, a regular endotracheal tube of 6.0 mm ID would protrude into the surgical field. A nasal RAE tube of 6.0 mm ID would be neither too short (the preformed curvature is at 25 cm) nor protrude into the surgical field, because the connecting portion of the endotracheal tube could be diverted easily away from it by virtue of its preformed curvature.

An anode wire tube of 6.0 mm ID also can provide an unobstructed view of the surgical field. In addition, its supporting wire helps to avoid accidental kinking of the endotracheal tube. Nevertheless, an anode tube can be kinked proximally at the wire-free junction near the connecting adaptor and obstructed distally at the soft tip, which can fold into the tube. The elastic recoil force of an anode tube may increase the tendency to dislodge from the secured position; skin suturing often is used to secure the tube for this reason. The preformed curvature of a nasal RAE tube avoids generating such elastic recoil force. Finally, an anode tube costs approximately six times more than a nasal RAE tube.

We have used nasal RAE endotracheal tubes of 6.0 mm ID for orotracheal intubation and achieved an unobstructed view of the surgical fields during direct laryngoscopy, bronchoscopy, and local biopsy procedures. Once orotracheal intubation is confirmed, the preformed curvature is guided to either corner of the patient’s mouth. The connecting end of the endotracheal tube is attached to the ventilator circuit at that point, no part of the endotracheal tube or the ventilator circuit would be above the patient’s face level to hamper the surgeon’s view (fig. 1). As a result, accidental dislodging or kinking of the endotracheal tube by the surgeon is less likely to occur. Accidental dislodging or kinking of the tube may be possible, however, if excessive torsion is applied while positioning the connecting portion.

Because the distance from carina to lips of an average adult ranges from 24 to 28 cm, endobronchial intubation is possible if the nasal RAE tube of 6.0 mm ID is fully inserted to the preformed curvature at 25 cm. If endobronchial intubation occurs, the endotracheal tube should be withdrawn, and the gap between the patient’s cheek and the endotracheal tube should be padded with gauze, such as 4 x 4 s, to secure the airway.

One of the disadvantages of using nasal or oral RAE tubes includes difficulty passing a suction catheter through the preformed curvature. In critical situations, however, suctioning through a nasal RAE tube can be accomplished by cutting the endotracheal tube at the preformed curvature and reinserting the connecting adaptor to the cut end. The 6.0 mm-ID nasal RAE tube then becomes a straight endotracheal tube with the full length of 25 cm. If reinserting the connecting adaptor to the cut end remains difficult despite lubrication, a connecting adaptor from a smaller tube may be used.

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References


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