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(Accepted for publication April 26, 2011.)

Questioning Succinylcholine Usage in Grade IV (Difficult) Mask Ventilation

To the Editor:

We read with great interest the article by Amathieu *et al.*¹ "An Algorithm for Difficult Airway Management, Modified for Modern Optical Devices (Airtraq Laryngoscope; LMA CTrach®): A 2-yr Prospective Validation in Patients for Elective Abdominal, Gynecologic, and Thyroid Surgery."

We appreciate the efforts of the authors in their attempt to identify a new difficult airway algorithm in this era of video laryngoscopes, which are proposed to be useful in difficult airway scenarios with or without failed conventional laryngoscopy. We would like to discuss a few important issues with respect to this study.

First, being a difficult airway algorithm, the route of induction (inhalational/intravenous) used in this study and recommendations in the algorithm have not been clearly mentioned. These findings would be of special concern in morbidly obese patients with obstructive sleep apnea syndrome and in patients with more than three difficult airway predictors.

Second, the authors have mentioned that with mask ventilation difficulty grade III/IV, succinylcholine will be used to reduce the duration of apnea. Because grade IV mask ventilation is being described as ventilation inadequate with no end-tidal carbon dioxide measurements and no predictable chest wall movement during attempts at positive pressure ventilation, it is inadvisable to paralyze the patient as per the author's algorithm, and this process goes against the universally practiced American Society of Anesthesiologists difficult airway algorithm, which insists on preservation of ventilation. If ventilation is not possible according to the American Society of Anesthesiologists algorithm, it is better to awaken the patient rather than primarily paralyzing the patient.

Third, the algorithm only mentions that in patients with three or more predictors of difficult airway succinylcholine will be used primarily. The authors have not clearly mentioned the upper limit with respect to the number of predic-

tors of difficult airway within which the patient will be anesthetized and paralyzed primarily with succinylcholine or above which the patient will be excluded from the study and will undergo fiberoptic intubation while awake. In this study, one patient who had five difficult airway predictors was anesthetized and paralyzed with muscle relaxant succinylcholine (primarily) and desaturated up to 68%. Whether to anesthetize or to proceed with fiberoptic intubation in the awake patient in higher difficult airway predictors is an important issue of concern.

Fourth, although Airtraq has been used as a familiar videolaryngoscope, the use of a gum elastic bougie with Airtraq is not that familiar to anesthesiologists. There are few articles^{1,2} that describes the use of bougie-aided intubation with Airtraq (including the current study), but nowhere in the literature has the methodology of gum elastic bougie usage with Airtraq been explained clearly.

The authors have intubated three patients with Airtraq with the aid of gum elastic bougie. The following queries are unanswered:

1. In Cormack Lehane grade III/IV view with Airtraq, was gum elastic bougie used blindly?
2. Was the bougie passed through the already loaded endotracheal tube in the endotracheal tube channel of Airtraq?
3. Was it possible to manipulate the distal tip of the gum elastic bougie when it was already loaded in the endotracheal tube?
4. If gum elastic bougie was used without an endotracheal tube through the endotracheal tube channel, was it determined whether further endotracheal tube railroading is through the endotracheal tube channel or outside it?

Being the first rescue device in the difficult airway algorithm described, a description of the methodology of usage of gum elastic bougie with Airtraq would have been equally or more important than description in the algorithm alone because it has not been described anywhere else in the literature. We will be very glad if the authors take into consideration the above-mentioned issues.

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(Accepted for publication April 26, 2011.)