A Comment on “Airway Assessment Before Intervention: What We Know and What We Do”

We read with interest the editorial on “Airway management before intervention: what we know and what we do.”

We are pleased to learn that colleagues other than us believe that it may be time to rethink the methods used for preinduction airway evaluation. We agree that it is time to include assessment of risk factors for other airway management modalities than intubation by direct laryngoscopy.

In the editorial, the authors quote our study examining the diagnostic accuracy of predicting difficult tracheal intubation and difficult mask ventilation. In regard to the comments in the editorial, we would like to elaborate on a few points. The Danish Anaesthesia Database only allowed us to collect and analyze data on the 2 questions regarding anticipation of difficulties with (1) facemask ventilation and (2) tracheal intubation. Although it was impossible for us to explore the methods used for the airway assessments, these were to some extent based on examination of known risk assessment tools for difficult laryngoscopy (DL). We conducted a survey on 29 Danish anesthesia departments (approximately 70% national coverage) inquiring on departmental guidelines for airway assessment. Some or all of the following risk factors for DL were listed on the 29 assessment forms: mouth opening, Mallampati score, cervical spine movement, jaw protrusion, thyromental distance, and history of a previous difficult intubation. The median number of risk factors registered was 4 (range 1–6). Thus, it would be fair to assume that the answers to anticipation of difficulties were, to some extent, based on the application of risk assessment tools. Our aim was to demonstrate the diagnostic accuracy of airway assessment in every day clinical practice, and thus we did not pursue data on individual airway assessment tools, which also were deemed infeasible.

Nevertheless, we share the authors’ advocacy for evidence on the effect of using multivariable risk tools for airway assessment. Consequently, we designed a cluster randomized trial allowing us to compare the use of the Simplified Airway Risk (SARI) with a control group continuing existing practice.

Using the SARI was not superior to existing practice on our primary outcome, the overall incidence of unanticipated difficult intubation. We found that 89% (SARI) and 91% (control) of all difficult intubations were unanticipated (patients scheduled for advanced intubation techniques were excluded), underlining the findings of our previous work. We are currently working on an article with data on the individual risk factors from this trial. It will reflect the efficacy of assessing risk factors in nonselected patients from everyday practice in contrast to previous cohort studies describing rigorous and standardized study designs on a preselected patient population, making it difficult to extrapolate to everyday conditions.

We found the results of the survey on airway assessment forms intriguing because they underline the diversity in airway assessment and the predominant attention paid to prediction of DL. We appeal the authors to publish the results of this survey and align with them in the call for solutions for a better and evidence-based airway assessment.
In Response

Incomplete Airway Assessment

We thank Dr. Nørskov et al1 for their thoughtful comments concerning our editorial.2 We also are grateful for their clarification of methods used for airway assessment in their Danish Anaesthesia Database study.3

Although it is clear that airway evaluation before intervention is a critical step to minimize adverse outcomes, we agree with Nørskov et al1 that there is ample room for improvement in the evaluation tools we have to date. In other words, because unanticipated difficulties in managing the airway will likely continue to occur in our clinical practice, airway practitioners must be equipped with a strategy to manage an unanticipated difficult or failed airway (ie, plan B, plan C).3–5

Recognizing that the survey mentioned in our editorial2 was an informal solicitation of information regarding the airway evaluation section of preanesthetic assessment forms (an image taken from a smartphone), there is potential for bias in our data collection. The countries involved in our survey included Australia, Canada, England, Germany, Italy, the Netherlands, New Zealand, Singapore, Rwanda, and the United States. As summarized in our editorial, the airway assessment section on these forms varied substantially, ranging from descriptive text only to a list of predictors of difficult direct laryngoscopy with Mallampati score, this latter, the most common predictor present on these preanaesthetic assessment forms. On the basis of the information collected, we concluded that assessment for difficult direct laryngoscopy remains the main focus of airway assessment at many centers around the globe. The form from our center at Dalhousie University was the only one asking for predicted difficulty in bag-mask ventilation and surgical airway (cricothyrotomy). None of the forms surveyed queried assessment of predicted difficulty in using an extraglottic device, such as a laryngeal mask airway.

We agree with Nørskov et al1 that we must find solutions to improve and correct problems related to incomplete airway assessment. In addition to assessing the patient for predicted difficulty with direct or video laryngoscopy, we must stress the importance of assessing difficulties in other methods in oxygenation and ventilation. These include difficulties in bag-mask ventilation, the use of an extraglottic device (eg, a laryngeal mask airway), and front-of-neck access (cricothyrotomy) so that appropriate airway management strategies can be planned before intervention. Adverse patient physiology (eg, full stomach, anticipated intolerance of apnea) with the potential to impact the choice of approach to the airway also must be considered.

REFERENCES


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Orlando Hung, MD, FRCPC
J. Adam Law, MD, FRCPC
Ian Morris, MD, FRCPC

Department of Anesthesia, Pain Management and Perioperative Medicine
Dalhousie University
Halifax, Nova Scotia, Canada
hung192@gmail.com

Michael Murphy, MD, FRCPC

Department of Anesthesiology and Pain Medicine
University of Alberta
Edmonton, Alberta, Canada