

CORRESPONDENCE

Anesthesiology
79:413-414, 1993
© 1993 American Society of Anesthesiologists, Inc.
J. B. Lippincott Company, Philadelphia

Defining the Difficult Airway

To the Editor:—The American Society of Anesthesiologists Task Force on Management of the Difficult Airway has presented a Difficult Airway Algorithm for the management of this important group of clinical problems.¹ The efforts of the Task Force to develop management guidelines are to be applauded. However, the algorithm itself raises a concern.

As I have suggested elsewhere, anesthesiologists must ensure that their management interventions are based upon adequate definitions of the clinical problems that they are intended to address.² Failure to do so can easily mislead, misguide, or unnecessarily complicate management—as has happened too frequently in anesthetic practice in the past.² Since the term “difficult airway” has not been well defined previously, the Task Force proposes that it be considered “difficulty with mask ventilation, difficulty with tracheal intubation, or both.”¹ The Difficult Airway Algorithm addresses problems implied by this definition. However, I wonder if this definition is sufficiently specific and inclusive for the most practical guidelines to management.

The first component of the Task Force's definition, “difficulty with mask ventilation,” is a difficulty that may be encountered with problems other than those of the upper airway, *e.g.*, thick beards, bronchospasm, and marked abdominal ascites. The second component, “difficulty with tracheal intubation,” refers to at least two distinct groups of problems, *i.e.*, problems of difficult laryngoscopy and problems of endotracheal tube placement unrelated to laryngoscopy. Another important source of difficulty and/or complication in airway management, the potential for contamination of the unprotected airway by foreign material, is not mentioned in the Task Force definition. I believe that this lack of specificity and comprehensiveness in the definition may have hampered the development of optimal guidelines for management. I would like to propose a modified definition and point out how it might form a stronger basis for guidelines.

A “difficult airway” might be defined as one or more of the following difficulties in airway management:

1. difficulty in establishing and/or maintaining the patency of the upper airway (I would propose this terminology to replace “difficulty with mask ventilation.” It refers more specifically to problems of the airway and focuses more directly upon the management requirements.)
2. difficulty in performing direct laryngoscopy (This refers to the major group of problems that cause “difficulty with tracheal intubation” and focuses more specifically on the management problem.)
3. difficulty with the placement and/or positioning of the endotracheal tube (This denotes a separate group of problems that hinder tracheal intubation, such as difficulty due to tracheal compression.)

4. difficulty associated with the potential for contamination of the unprotected airway by foreign material and/or difficulty brought about by contamination (This important group of problems, which includes the potential for aspiration of gastric contents, obviously can present difficulty in airway management.)

With a more specific and inclusive definition, one can appreciate important differences among various types of “difficult airway.” Each type has its own risks and therapeutic implications, as well as its particular requirements for management (to say nothing of its causes, pathology/pathophysiology, clinical presentation, and so on). For example, one does not approach the management of an anticipated difficulty in maintaining airway patency *per se* in the same way that one deals with a difficult laryngoscopy *per se*. Nor does one manage an anticipated difficult laryngoscopy *per se* in the same manner as one handles a difficult laryngoscopy combined with the potential for airway contamination by gastric contents. The fact is that each difficulty and each possible combination of difficulties has its own special needs with respect to management.

In view of the substantially different treatment strategies required for the various identifiable types of “difficult airway,” one wonders about the adequacy of a common set of management strategies, such as the Difficult Airway Algorithm.¹ Though such an algorithm may present a range of therapeutic options for various difficulties, it may lack the specificity and relevance needed to deal with any individual type or combination of types of difficulty in a practical way. Would it not be more useful to define each type of difficulty clearly and then formulate a simple set of basic management strategies for each that is tailored to its particular risks and management requirements? (Although the Task Force states that their “primary focus” was “difficulty encountered during tracheal intubation,”¹ the heading of the Algorithm refers to management of “difficult ventilation” as well as “difficult intubation,” whereas the Algorithm itself seems to address difficulties in achieving airway patency and performing direct laryngoscopy.¹)

I believe that recommendations for the management of any clinical problem in anesthesia must be based upon a reasonably specific and inclusive definition of the problem itself.² Otherwise, the recommendations may fail to guide clinical practice in the most pertinent and practical ways.

Richard L. Knill, M.D., F.R.C.P.C.
Professor, Department of Anaesthesia
Faculty of Medicine
University of Western Ontario
London, Ontario
N6A 5A5, Canada

CORRESPONDENCE

References

1. Practice guidelines for management of the difficult airway. *ANESTHESIOLOGY* 78:597-602, 1993

2. Knill RL: Anaesthesia research: Needs for the nineties. *Can J Anaesth* 39:411-419, 1992

(Accepted for publication May 21, 1993.)

Anesthesiology
79:414, 1993
© 1993 American Society of Anesthesiologists, Inc.
J. B. Lippincott Company, Philadelphia

In Reply:—Practice guidelines represent a synthesis of scientific data, expert opinion, and clinical feasibility. For the present set of guidelines, the Task Force found no strong standard or quantitative basis for definition of the difficult airway. Expert opinion, however, consistently identified two basic and recurrent characteristics: difficulty with mask ventilation and difficulty with tracheal intubation. The additional considerations outlined by Knill also were identified and studied during the process of guideline development. The Task Force found that attempts to incorporate these additional considerations resulted in a complex and cumbersome algorithm that obscured the fundamental principles. Therefore, the Task Force decided that a general and broadly applicable definition would be of greater utility than one that attempted to itemize a variety of highly specific conditions. It is noteworthy that the approach selected by the Task Force was readily grasped and affirmed by practitioners who evaluated the guidelines at various stages of development and at an open forum review.

Practice guidelines are not intended as rigid or static formulations. They serve as starting points for current practice and future inno-

vation. For the practitioner, this means that practice guidelines can be accepted, modified, or rejected according to specific needs, preferences, or constraints. For the clinical investigator, guidelines provide an opportunity to advance the scientific foundations of medicine by directing attention to concepts or specific aspects of care that are likely to benefit from additional study and testing. The comments by Knill exemplify this type of inquiry. We hope that such efforts will be widespread and that they will yield important contributions to the management of the difficult airway.

Robert A. Caplan, M.D.
Chairman, Task Force on Guidelines for
Management of the Difficult Airway
Department of Anesthesiology
Virginia Mason Clinic
1100 Ninth Avenue
P.O. Box 900
Seattle, Washington 98111

(Accepted for publication May 21, 1993.)

ERRATUM

A letter to the editor published in the March issue (Shulman MS, Robillard RJ: Accuracy in reference citations. 78:616-617, 1993) contained an error. In the second paragraph, line 10, the *British Journal of Medicine* should read the *British Medical Journal*.