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LETTER TO THE EDITOR

Letter to the Editor regarding "Comparison of the intubation success rate between the intubating catheter and videolaryngoscope in difficult airways: a prospective randomized trial." Braz J Anesthesiol. 2022;72 (1):55-62

Dear Editor,

Airway management is fundamental to the practice of anesthesiology and recent guidelines have summarized best practices in securing the airway in surgical patients.[1,2] The definition of a difficult airway has been debated but it is generally accepted that if a trained clinician cannot view the vocal cords and/or cannot place the endotracheal tube into the trachea, this airway could/should be documented as "difficult".[3] Despite these recent publications, it is still unclear how best to manage the unexpected or unanticipated difficult airway. Without quality publications to rely on, the management of the unanticipated difficult airway is often guided by personal preference, anecdotes, and tunnel vision among practicing clinicians. Indeed, laryngoscopy and intubation are two separate procedures and require different troubleshooting techniques when difficulty is encountered. The recent prospective trial published by Ozdemirkan and colleagues[4] randomized patients with difficult airways (i.e., failed direct laryngoscopy on the first attempt) to either a laryngoscopy enhancement (i.e., the McGrath video laryngoscope) or an intubation enhancement (i.e. the Frova intubating catheter with a coude tip in conjunction with direct laryngoscopy) for the second attempt. Specifically, the participating clinicians in this study were expert anesthetists with > 50 intubations with both devices. This study is highly novel and impactful for the field of anesthesiology. I have a few questions and comments for the authors.

The authors performed a thorough airway preoperative assessment, pre-oxygenated their patients sufficiently prior to induction of anesthesia, and chose dosages of propofol and rocuronium to optimize intubating conditions. Nevertheless, they found 50 patients who were difficult to intubate by direct laryngoscopy in the 32 months of their study (January 2015 to August 2017). I have several questions about the Methods. How many patients during this time period were easy to intubate by these experienced clinicians? Did all of these patients consent to possible enrollment in this study? The unconscious patients deemed difficult to intubate were randomized into the study. How were randomization and allocation concealment performed? Did the clinician performing intubation always have a helper to decide what the treatment would be (McGrath vs. Frova)? Were both devices available in all operating rooms or did these come from a central location? Did mask ventilation occur as the randomization process was being performed? The patients in this study were mostly young and health people undergoing elective surgery. What surgeries were the patients undergoing? Why did the authors use such large endotracheal tubes? Size 7.5—8.5 mm in women and 8.5—9.5 mm in men are difficult to place in the trachea even under the best of circumstances. Were these cuffed or uncuffed tubes? Did the authors perform cricoid pressure or the backwards-upwards-rightward pressure maneuever to optimize the view of the vocal cords? Also, a glaring concern about this study is that it was registered on the Australia New Zealand Clinical Trials registry retrospectively (i.e., in 2018 after data collection had already occurred).

Regarding the Results, in the Cormack and Lehane view between the two devices is markedly different. With the McGrath, 17/24 patients were a grade 2 view whereas only one person was a grade 2 view with the Frova intubating catheter and direct laryngoscopy (22/25 patients were grade 3 views with Frova intubating catheter). This finding clearly delineates that laryngoscopy and intubation are two separate procedures and require different troubleshooting techniques when difficulty is encountered. Specifically, the Frova intubating catheter is indicated when the laryngoscopy view is suboptimal. The key findings that 22/25 people could be intubated with the Frova catheter compared to 16/24 with the McGrath did not reach statistical significance but is clinically impactful. It is also worth noting that combined use of the McGrath and Frova was successful when the initial attempt was unsuccessful.

The implications of this study are potentially vast. In limited-resource environments, what tool(s) should anesthesia providers have on hand when direct laryngoscopy is not adequate? The data in this publication can also be helpful for the education of resident physicians and student anesthetists. Prior studies have shown that trainees need 30–50 successful attempts in order to be proficient in different

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procedural tasks.[5] However, these numbers have wide variability and do not necessarily reflect performance in unique or stressful situations such as the unanticipated difficult airway. Are there opportunities to practice with the McGrath and the Frova intubating catheter in "easy" airways in order to be prepared for the rare unanticipated difficult airway? Once the authors comment on my questions above, the readers of this journal will be able to determine if the strong experimental methods of this published study (internal validity) apply to other patients undergoing surgery and anesthesia around the world (external validity).

Conflicts of interest

The authors declare no conflicts of interest.

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