CORRESPONDENCE

In reply: Comparing videolaryngoscope and direct laryngoscope use for nasotracheal intubation in patients with manual in-line stabilization

Go Un Roh, MD · Jong Yeop Kim, MD

Received: 22 July 2019 / Revised: 29 July 2019 / Accepted: 6 August 2019 / Published online: 13 August 2019
© Canadian Anesthesiologists' Society 2019

To the Editor,

We thank Dr. Shao *et al.*¹ for their valuable comments on our recent article.² They raised important concerns and questions, which we further address below.

As mentioned, it would indeed be helpful to assess the patency of nostrils before nasotracheal intubation to minimize the risk of nasal trauma during endotracheal tube (ETT) placement. There are several tests to select the most suitable nostril. The flow rate through each nostril can be assessed during breathing by simply asking the patient to discern the clearer nostril when the contralateral nostril is occluded. Nevertheless, since this simple method is known to be of poor diagnostic value,³ flexible bronchoscopic selection and guidance would arguably be more helpful to minimize the incidence and severity of epistaxis.⁴ With respect to the risk of epistaxis, the choice of nostril sides does not seem to consistently alter the risk. In our study, we selected only the right nostril for nasotracheal intubation, because the ETT was easier to manipulate by the operator's right hand and more visible on the right side of the videolaryngoscope (VL) screen. The ease of intubation was assessed mainly for the manipulation of the laryngoscope, not including the ease

of actual nasal placement of the ETT. In addition, because our study was designed to exclude the patient in the event of significant epistaxis after nasal placement of the ETT, the incidence of epistaxis was not recorded. The incidence of bleeding was defined as limited to oropharyngeal tissue bleeding during the intubation in this study. Fortunately, no patient presented with significant epistaxis during the placement of the ETT through the nostril and no patient was excluded from analysis.

As Shao *et al.*¹ pointed out, the intubation difficulty scale (IDS) is weighted more on the Cormack Lehane (CL) grade of laryngeal view, and VL generally has a lower CL grade compared with a direct laryngoscopy. Because a lower CL grade does not guarantee easier nasotracheal intubation, N5 (the lifting force applied during laryngoscopy) and N6 (the necessity of applied external laryngeal pressure for optimized the glottic exposure) could be used to align the device and trajectory of the ETT using VLs.⁵ In addition, the numeric rating scale also assessed for difficulty of intubation in our study. The IDS may not be an ideal tool to assess the difficulty of nasotracheal intubation with VL, but IDS was the best available to us at the time.

In our study, intubation failure was defined as peripheral capillary oxygen saturation (SpO₂) dropped below 95% during intubation, or if it took more than 90 sec. We could not intubate ten patients on the first attempt because the intubation took more than 90 sec. None of the patients presented SpO₂ < 95% during intubation in our study.

Conflicts of interest None declared.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia*.

G. U. Roh, MD
Department of Anesthesiology and Pain Medicine, CHA
Bundang Medical Center, CHA University School of Medicine,
Seongnam, Korea

J. Y. Kim, MD (✉) ·
Department of Anesthesiology and Pain Medicine, Ajou
University School of Medicine, Suwon, Korea
e-mail: kjeop@ajou.ac.kr

References

1. Shao LJ, Liu SH, Xue FS. Comparing videolaryngoscope and direct laryngoscope use for nasotracheal intubation in patients with manual in-line stabilization. *Can J Anesth* 2020; 67; DOI: <https://doi.org/10.1007/s12630-019-01461-1>.
2. Roh GU, Kwak HJ, Lee KC, Lee SY, Kim JY. Randomized comparison of McGrath MAC videolaryngoscope, Pentax Airway Scope, and Macintosh direct laryngoscope for nasotracheal intubation in patients with manual in-line stabilization. *Can J Anesth* 2019; DOI: <https://doi.org/10.1007/s12630-019-01409-5>.
3. Smith JE, Reid AP. Identifying the more patent nostril before nasotracheal intubation. *Anaesthesia* 2001; 56: 258-62.
4. Tong JL, Tung A. A randomized trial comparing the effect of fiberoptic selection and guidance versus random selection, blind insertion, and direct laryngoscopy, on the incidence and severity of epistaxis after nasotracheal intubation. *Anesth Analg* 2018; 127: 485-9.
5. Vijayakumar V. Intubation difficulty scale score and videolaryngoscopes. *J Neurosurg Anesthesiol* 2017; 29: 70-1.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.