Management of Difficult Airways: Which Is the Safest Approach after Reviewing Virtual Laryngo-tracheo-bronchoscopy Imaging?

To the Editor:
Agarwal et al.1 highlighted the usefulness of three-dimensional reconstruction of computed tomography imaging for the safe management of patients with upper airways stenosis. The authors well described the reasons for performing such advanced imaging and we agree that preoperative work-up of such patients may greatly benefit by the innovative information provided by virtual laryngo-tracheo-bronchoscopy. Yet, virtual laryngo-tracheo-bronchoscopy has great potentialities also in patients with obstructive lesions and can help in planning a safer anaesthesiological approach. In fact, it is paramount to consider the risk of airway trauma and consequent bleeding in these patients with expected difficult airways. Therefore, the importance of smooth and uneventful placement of the endotracheal tube cannot be overemphasized.

According to the findings of the virtual laryngo-tracheo-bronchoscopy imaging, the authors decided the appropriate size of the endotracheal tube, which is entirely reasonable; however, it is less clear what they mean by “proper anesthetic induction” and more importantly, which strategy they implemented for positioning the 5.5-cm reinforced endotracheal tube.

The usefulness of a combined two-operator laryngobronchoscopic approach for the safe management of such cases has already been reported. Both conventional2,3 and video-laryngoscopes4 have been used in such scenarios to facilitate the introduction of the rigid2 or the flexible bronchoscope,3,4 therefore optimizing the operator view and decreasing the risk of bleeding. Interestingly, a manikin study showed that the combined use of Airtraq® (Prodol Meditec S.A., Vizcaya, Spain) and fiber-optic bronchoscope significantly reduced the time for intubation in difficult laryngoscopy scenarios when compared with the Airtraq® alone.5 It would therefore be useful if the authors could share their technical approach in the management of the airways of such cases.

Competing Interests
The authors declare no competing interests.

References

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In Reply:
We would like to thank Dr. Sanfilippo et al. for their thoughtful comments regarding our recent article in Anesthesiology.1 We do agree that our phrase, “proper anesthetic induction” does not give a clear sense of what occurred during induction and intubation. However, because of word-count limits, we were unable to elaborate further. More importantly, we wanted to focus on the usefulness of a novel imaging modality, virtual laryngo-tracheo-bronchoscopy, in the management of complex airway scenarios.

We agree that a combined laryngo-bronchoscopic approach can help in managing complex airways. However, there are two important considerations. First, the approach requires two trained operators, who may not always be readily available. Second, this combined approach is more useful in patients with upper airway pathologies; our patient had a lower airway pathology.

On the basis of the computed tomography measurements, we had estimated that a size 5.5 endotracheal tube could be placed across the tracheal stenosis and that there was relatively low risk for dynamic airway collapse. Therefore, awake fiber-optic intubation was deemed unnecessary. However, to ensure that we did not end up in a “cannot ventilate-cannot intubate” situation, we planned to do an inhalational induction with sevoflurane while maintaining spontaneous ventilation. Intubation using a videolaryngoscope was unremarkable, with the tube passing easily through the stenosed segment.

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