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Landiolol and peri-induction tachycardia

To the Editor:

We read with interest the recently published article by Yamazaki *et al.*¹ The authors describe the role of landiolol, a new β_1 selective antagonist in attenuating tachycardia in response to tracheal intubation. The authors conclude that landiolol [0.1 mg·kg⁻¹ (L1 group) and 0.3 mg·kg⁻¹ (L3 group)] prevents tachycardia without affecting blood pressure. However, the results indicate that there was no difference in heart rate (HR) values between the control group and L1 group. We believe that this may be related to the anesthetic induction technique, which comprised propofol (2 mg·kg⁻¹) and succinylcholine (1 mg·kg⁻¹). It is well known that propofol² as well as succinylcholine³ are associated with a decrease in HR. Further, it is unclear as to when vecuronium was administered during the induction-intubation sequence: as this may have presented an additional confounding factor.

Thus, it appears that a dose of 0.1 mg·kg⁻¹ of landiolol was unable to attenuate the tachycardia in response to tracheal intubation independently from the effects of the anesthetic agents. Further, the mean HR values ranged between 70 to 90 beats·min⁻¹ (SD $\pm$ 10) in all the groups at all stages. Although the increase in HR was statistically significant, the magnitude of change was clinically insignificant, barring perhaps one minute after intubation.

Therefore, it seems that the conclusions drawn by the authors should be revised. The study does not demonstrate that a dose of 0.1 mg·kg⁻¹ of landiolol produced any significant change in HR as compared with the control group. Perhaps the drug should be evaluated in combination with other anesthetic techniques. Although the authors suggest that studies should be performed in patients with heart disease to demonstrate beneficial effects of landiolol, most patients with coronary artery disease are usually receiving beta blockers preoperatively. Long acting drugs such as atenolol may confer an anti-ischemic benefit during the entire perioperative period⁴ (up to one week after surgery) and not just following tracheal intubation. Thus, it seems that the utility of landiolol may be limited to those patients in whom the effect is required for brief periods without causing a decrease in arterial pressure.

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Reply

We appreciate Chawla *et al.*'s interest in our article. Succinylcholine may be associated with an increase in heart rate, corresponding with elevation of plasma norepinephrine.¹ Indeed, in the control group in our study, heart rate was significantly elevated one minute after intubation.² Therefore, it is unlikely that succinylcholine augmented the negative chronotropic response observed in the landiolol groups. However, since we administered vecuronium immediately after intubation, we cannot exclude the possibility that this drug may have attenuated catecholamine release after succinylcholine, resulting in smaller changes in heart rate and blood pressure.^{1, 2} We recognize that perioperative β -blocker administration to obtain perioperative hemodynamic optimization must be done selectively. The use of short-acting β -blockers including landiolol, may confer specific benefits in the setting of brief, but intense periods of autonomic stimulation in patients with coronary artery disease.

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A long endotracheal tube to facilitate intubation via the Fastrach™ laryngeal mask airway

To the Editor:

Although the laryngeal mask airway (LMA) is a definitive tool for fiberoptic endotracheal intubation,

FIGURE During removal of the laryngeal mask airway from an adult patient, the operator is capable of holding 20 to 23 cm from the distal end of the tube to avoid unintentional extubation. The proximal portion of the endotracheal tube can be advanced easily while performing this procedure.

standard endotracheal tubes are limited by their short length when securing the position of the endotracheal cuff via this technique.^{1–3} As a potential solution to this problem, we propose the use of a long endotracheal tube to secure intubation via the LMA.

The Institutional Review Board of the Japanese Red Cross Society Wakayama Medical Center approved publication of the personal health information from this case, and written informed consent was obtained from the patient. A long endotracheal tube made from polyvinyl chloride was prepared, and the quality of the tube was evaluated with the cooperation of Smiths Medical Japan Ltd. A 60-yr-old male patient, with a predicted difficult airway, was scheduled for the repair of a fractured clavicle. General anesthesia was induced with propofol 2 mg·kg⁻¹ and butorphanol 20 µg·kg⁻¹ *iv*, followed by the oral insertion of a #4 Fastrach™ LMA. After establishing ventilation with the Fastrach™ LMA using 3% sevoflurane in 100% oxygen with a fresh gas flow 6 L·min⁻¹ for three minutes, a long endotracheal tube (44 cm in length and 7.5 mm internal diameter, Figure) was advanced over a fiberoptic bronchoscope (Olympus™ LF-DP, Tokyo, Japan; 3 mm outer diameter and 60 cm in length) into the ventilator lumen of Fastrach™. The long endotracheal tube was uneventfully advanced into the trachea, and thereafter the bronchoscope and Fastrach™ LMA were simultaneously removed.