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Vital capacity and patient-controlled sevoflurane induction

To the Editor:

We read with interest the article by Yogendran *et al.*¹ comparing patient controlled inhalation induction (PCI) with the most commonly used vital capacity induction (VCI). The authors concluded that "PCI was comparable to VCI in sevoflurane induction with respect to the speed of induction, side effects during induction and patient satisfaction".

We partially disagree with this conclusion because we believe that there was a problem with the VCI in the study. Considering that the volume of gas inhaled in a vital capacity inspiration is 70 mL·kg⁻¹ (5.6 L for an 80-kg patient) and requires a very high peak flow that current vaporizers cannot accommodate, and considering that the authors used a circle breathing system connected to a Datex-Ohmeda® AS/3 unit with a canister volume of 900 mL and a 2-L reservoir (information obtained from authors), and assuming the average patient's weight is 80 kg, the primed circuit afforded half of the volume needed for a VCI induction. Consequently, patients in the VCI group didn't breathe sevoflurane 6 to 8%, but instead received diluted sevoflurane 3 to 4% during the first minute of induction. This might explain the 1.5-min necessary to achieve loss of eyelash reflex in the VCI group in the present study, in contrast to the induction times (32 to 54 sec) generally reported by other authors,²⁻⁴ even without N₂O.⁵ Five-litre reservoir bags should be used, and fresh gas flow can be reduced to 2 L·min⁻¹ after loss of consciousness to diminish sevoflurane consumption in VCI.

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Intubating conditions associated with the Mallampati "class zero" airway

To the Editor:

The recent correspondence by Sakuragi *et al.* describing tracheal intubation in an adult male with a Mallampati class zero airway was of interest to us.¹ Although it was correctly identified that Ezri *et al.* failed to identify any adult men with a Mallampati class zero airway in a series of 764 patients,² two such cases have been reported previously.^{3,4}

We, too, have encountered patients with a class zero airway. The first patient was a 48-yr-old male whose epiglottis was visible on mouth opening and tongue protrusion. Ventilation was easily managed following induction of general anesthesia. Cormack and Lehane laryngoscopy was grade 1, and he was easily intubated.³ However, the experience from a limited number of cases does not imply that a Mallampati class zero airway will predict easy intubation, as suggested by Sakuragi *et al.*¹ We have also reported a difficult grade 3 laryngoscopy in a 52-yr-female with Mallampati class zero airway, due to a large obstructive epiglottis.⁵ However, we did not encounter difficulty in mask ventilation in this patient. In contrast, in a 69-yr-old male patient with a Mallampati class zero airway, Fang and Norris reported extreme difficulty in mask ventilation, in addition to difficult intubation with a laryngoscopic view grade 3.⁴ It is possible that a large redundant epiglottis acts as a flap, blocking the glottic opening every time positive pressure is applied to ventilate the patient. Further, a large epiglottis may