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In Reply:

We thank Adachi *et al.* for their interest in our article¹ showing that a rapid infusion of hydroxyethyl starch (HES) but not acetate Ringer's solution decreased plasma propofol concentration during target-controlled infusion. They have focused on the influence of rapid fluid infusion on propofol pharmacodynamics. As it is unlikely that a rapid fluid infusion of HES itself changes the anesthetic potency of propofol in the brain, we discuss the influence of HES on the pharmacokinetics of propofol.

There is a good study by Takizawa *et al.*² for this issue. Briefly, this study clarified that a 30 ml/kg but not a 10 ml/kg isovolemic hemorrhage followed by crystalloid resuscitation significantly increased the unbound fraction of propofol in blood and also showed that a 10 ml/kg isovolemic hemorrhage did not decrease the bispectral index (BIS) value. Their results suggest that an 8 ml/kg rapid fluid administration without hemorrhage in our study¹ is unlikely to have increased the ratio of unbound propofol in blood. As a rapid infusion of 8 ml/kg HES decreased total plasma concentration of propofol in our study,¹ there is a possibility of anesthetic awareness under propofol anesthesia during a rapid infusion of HES.

A previous study suggested that a chemical interaction between propofol and HES might influence the pharmacokinetic behavior of propofol *in vivo* although this interaction was confirmed *in vitro*.³ This interaction might decrease unbound propofol in blood, which might increase anesthetic awareness during rapid infusion of HES under propofol anesthesia.

A single bolus of rocuronium without an additional dose was administered to all patients so that the levels of neuromuscular block were different among the patients. As neuromuscular block can influence the BIS value,⁴ we did not evaluate the BIS values in our study although we monitored BIS values to avoid anesthetic awareness. Therefore, we would like to note that we recommend to consider increasing the targeted concentration of propofol during a rapid infusion of HES and that the influence of a rapid HES infusion should be examined in a further study as described in the conclusion of our article.¹

Competing Interests

The authors declare no competing interests.

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Front of Neck Airway: The Importance of the Correct (Obese) Models and (Trained) Participants in Study Design

To the Editor:

We read with great interest Professor Asai's editorial on the management of "can't intubate, can't oxygenate" situations¹ and Heymans *et al.*'s² study of cricothyrotomy in cadavers. We agree with Professor Asai that this topic is extremely difficult to study and that it is difficult to recommend a definitive best technique for front of neck airway. The importance of the topic is exemplified by a recent statement and editorial by several anesthetic and surgical bodies in the United Kingdom supporting cricothyrotomy (not tracheostomy) as the first option in "can't intubate, can't oxygenate"³ and a response to this by the Australian and New Zealand College of Anaesthetists (Melbourne, Australia).⁴

Our first concern is that Professor Asai places weight on the finding of Heymans *et al.*'s² study in which medical students performed cricothyrotomy in cadavers. Without disrespecting medical students, they are not equipped with the knowledge, attitudes, or skills of those likely to be performing front of neck airway. As such it is not possible to disentangle whether the study tells us most about the model, the techniques, or the operators. Such studies are most valuable when performed on appropriate models by clinicians likely to be involved in such emergencies.

Our second concern is that Professor Asai emphasizes that cannula cricothyroidotomy was less likely to be successful than a surgical approach in the United Kingdom's Fourth National Audit Project.⁵ This study was a joint project organized by the Royal College of Anaesthetists (London, United Kingdom) and the Difficult Airway Society (London, United Kingdom) and it looked at all complications of airway management in the United Kingdom in a 1-yr period. The reasons for this were multifactorial. Importantly, needle-based approaches were mostly performed by anesthetists in "end-of-algorithm" situations in which they had to abandon the upper airway and attempt the procedure in a peri-arrest situation—a situation familiar to the American literature