Dose of propofol for successful insertion of I-gel and laryngeal mask airway

Sir,

We read with interest the study by Ashay et al.\textsuperscript{[1]} regarding the evaluation of ED\textsubscript{50} of propofol for successful insertion of I-gel versus laryngeal mask airway. We have a few concerns regarding the methodology of the study.

First, the sample size determination appears a little confusing. The authors initially state in the introduction section that using the Dixons up-and-down method required them to include a minimum of 6 cross-over points. However, in the methodology it is made clear that 30 patients were randomized to each group. When using the up-and-down method, it is not possible to preemptively state the number of patients included. The randomization of patients’ needs to continue till 6 cross-overs is obtained. Contrastingly, in the paragraph on statistical analysis, it is also stated that 22 patients were required in each group at a power of 90% and an alpha error of 5%. The confusion is further exaggerated since the major advantage of using up-and-down method is the reduction in required sample size by 30-40%.\textsuperscript{[2]}

Second, the determination of ED\textsubscript{50} to depict a “successful” or recommended dose itself may be a little controversial. In clinical practice, to expect that 50% of times, the supraglottic
airway insertion will result in less than satisfactory placement of the device may not be clinically acceptable. Since the authors anyways randomized a much greater number of patients than required by the up-and-down method, perhaps determination of ED$_{95}$ using another statistical tool such as probit analysis may have been desirable.

Finally, the definition used by the authors to define successful or failed adequacy of the dose of propofol merits discussion. A failure was depicted by the presence of upper airway stimulation, i.e., movements such as jaw tightness or coughing, etc. Since no measure of adequate depth of anesthesia was included, would it not have risked inadequate hypnosis and development of awareness when decreasing the propofol dose? To rely only on stimulation of certain upper airway reflexes for concluding that the dose of propofol was inadequate that appears to challenge the concept of adequate hypnosis during anesthesia.

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Conflicts of interest
There are no conflicts of interest.

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