Reviewer's report

Title: Required propofol dose and time to emerge for anesthesia are affected by use of antiepileptic

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Reviewer: Bruno Laviolle

Reviewer's report:

Ouchi et al performed a prospective observational study in patients with neurological disorder who underwent dental treatment under intravenous general anesthesia in order to assess the relationship between neurological disorders and the required dose of propofol, and the time to emerge for anesthesia. They also investigated whether these parameters were affected by the use of antiepileptic drugs. The main result of this study is the decrease of propofol consumption and plasma concentration and the prolonged effect of propofol among patients taking antiepileptic drugs probably due to the inhibitory effect of antiepileptic on propofol metabolism.

The questions posed by the authors are well defined, the methods well described and the data are sound.

Major comments

Even if the results would probably not have been modified, the statistical methods should have used a two-way ANOVA to explore simultaneously the effect of the type of neurological disorder and the effect of using or not antiepileptic drugs (and the interaction between both).

The main limitation of the study is that all antiepileptic drugs were analyzed simultaneously although they do not necessarily have the same inhibitory effect on propofol metabolism. The authors should give the number of patients receiving each antiepileptic drug and perform a complementary analysis (at least descriptive) to assess if the inhibitory effect is present whatever the drug considered.

The discussion about the inhibitory effect of antiepileptic drugs on propofol metabolism could be shortened without affecting the main message. For example, redundant sentences and generalities about CYP enzymes are not necessary. The discussion referring to ref 28 is confusing and highly speculative since felbamate was not taken by the patients. The fourth paragraph of the discussion should be rephrased with English editing.

Minor comments

Abstract: SD should be given in addition to the means.

Figures: the authors should show standard deviations, and the foot notes do not need to repeat the mean and SD when this information is already given in the text.
Discussion section: the beginning of the discussion does not need to repeat the introduction section. The second sentence of the discussion must be rephrased.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests