Reviewer's report

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

Version: 2
Date: 19 November 2014
Reviewer: Jean Guglielminotti

Reviewer's report:

Thank you for giving me the opportunity to review the first revision of this manuscript. I appreciate the thorough comments and revisions in this improved manuscript. However, I still have comments to make, with a major concern regarding the revised statistical analysis.

MAJOR COMPULSORY REVISIONS

Statistics

I agree with the other reviewer that an ANOVA with 2 factors is the appropriate technique to analyze the data. One factor includes the 3 conditions (autism, cerebral palsy and intellectual disability) and one factor includes the 2 treatment groups (antiepileptic and no antiepileptic). This analysis would allow the simultaneous analysis of the 3 conditions and 2 treatment groups. If the effect of the condition (or treatment) is statistically significant (the global p-value should be presented), post-hoc tests can be performed to compare the three conditions (or 2 treatments). There is therefore no need to present the analysis of patients without antiepileptic to assess the effect of the medical condition and the analysis of all the patients that study the effect of antiepileptics. Only the results of the ANOVA and Figure 3 should be presented.

When I look at figure 3:

- There is no obvious effect of the condition: the 3 endpoints do not seem to be different in the groups AU no EPI, CP no EPI and ID no EPI. However, the global p-value for the condition effect is not presented (a table would be of help)
- There is an effect of the treatment but only in the subgroup ID since ID no EPI is different from ID EPI for the three endpoints. The three endpoints appear similar in the comparison AU no EPI versus AU EPI and in the comparison CP no EPI versus CP EPI. However, the global p-value for the treatment effect should be presented before performing subgroups comparisons.

The section results should present only the ANOVA and the discussion should also be modified according to the ANOVA (the effect of antiepileptics is probably limited to the ID group). The authors should consult a statistician for further assistance.

MINOR COMPULSORY REVISIONS
Introduction:
“Use of an antiepileptic drug may require a higher dose of propofol, because some types of antiepileptics are known to increase or decrease hepatic metabolism.” The sentence is unclear to me. If the tested hypothesis is that antiepileptics drugs decrease hepatic metabolism and may result in lower dose of propofol, it should be written as “Use of an antiepileptic drug may require a LOWER dose of propofol, because antiepileptics are known to DECREASE hepatic metabolism.”

Introduction
“because antiepileptics induce liver dysfunction”. Stricto sensu, antiepileptics do not induce liver dysfunction but inhibit hepatic metabolism.

Figures:
When I suggested to present the SDs, I was thinking of a graphical presentation and not adding figures on the plot

Methods and results: the infusion pumps display both the plasma and the effect-site concentration of propofol. The clinically relevant concentration is the effect site concentration. It is important that the authors indicate if they recorded plasma or effect site concentrations.

Level of interest: An article of limited interest

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