Reviewer’s report

Title: Effects of Different Doses of Magnesium Sulfate on Pneumoperitoneum-related Hemodynamic Changes in Patients Undergoing Gastrointestinal Laparoscopy: a randomized, double-blind, controlled trial

Version: 0 Date: 14 May 2019

Reviewer: Paolo Balsorano

Reviewer's report:

We read with interest the article by Wei Tan et al. This trial provides a thorough evaluation of hemodynamic effects of Magnesium Sulfate on pneumoperitoneum. Their work surely represents an improvement in the understanding of hemodynamics during the aforementioned event and deserves publication. We only suggest a minor revision.

Methods
Page 6
Line 12. Please define cardiac dysfunction vs poor left ventricular function as exclusion criteria. Was Grade 1 diastolic dysfunction an exclusion criteria? Please be more clear about inclusion and exclusion criteria.
Page 7
Line 43. Please substitute myokymia with TOF ratio.
Page 10. Why did the authors choose a spot evaluation for hemodynamic parameters (at predefined time intervals), despite the FloTrac system records data at a much shorter interval? Would it be possible an analysis at more frequent intervals?

Statistical analysis
Page 11
Line 4. Please test variables for distribution and express data as means or medians as appropriate and not only as means.
Line 8. Consider the chance of non parametric statistical tests for not normally distributed data. In this context statistical results might be flawed. Reformulate results according to distribution and non parametric comparison between not normally distributed variables if appropriate.

Results
Page 13
Line 57. What do the authors mean with 'recently'? In the last 15 years, there's been a huge proliferation of less invasive tools for hemodynamic monitoring. Please reformulate the sentence.
Page 14. Please state FloTrac monitoring system limits. Authors consider the lack of calibration as a strength. It can be actually argued that the absence of calibration can be seen as a limit of the system rather than a strength. Please reformulate the sentence.
Page 15
Line 35. Please reformulate the sentence about remifentanil. Despite being associated with opioid induced hyperalgesia, remifentanil is still one of the most widespread and used opioids in the intraoperative time due to some unique features; in this sense, its use is far from being limited.

Line 51. What the author means by 'pneumoniosis' hypertension?

The study is about hemodynamic variables during pneumoperitoneum induction. Please provide data about CVP values. CVP is required by FloTrac monitoring system in order to calculate SVR, and expressing SVR values without CVP might be limiting.

Table 2, 3, 4, 5, 6, 7
What is the p-value on the right side of tables referring to? Is within group variation? Please specify.

Please provide 95% CI together with p value.

Discussion
The authors emphasize Magnesium Sulfate effects on hemodynamic improvements in terms of SVR, MAP and CO. It is notable how CO improvement, while being statistically significant, is only marginal and confined to T2 and T3 intervals. Please provide a comment on how this small and transient parametric improvement might translate into clinical benefit?

The authors often emphasize FloTrac/Vigileo role in their manuscript. We would like to highlight how FloTrac is only one of the less-invasive hemodynamic monitoring systems available nowadays and It did not prove more reliable or accurate than others. In addition, the study is about Magnesium sulfate and not about FloTrac. As a result, we would like the authors to stay focused on the true nature of the study and not to stress too much attention on the monitoring device.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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None

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