Reviewer’s report

Title: Outcomes of General Anesthesia versus Conscious Sedation for Stroke Undergoing Endovascular Treatment: A Meta-analysis

Version: 0 Date: 24 Nov 2018

Reviewer: Ozan Akça

Reviewer's report:

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Manuscript Number: BANE-D-18-00502

Full Title: Outcomes of General Anesthesia versus Conscious Sedation for Stroke Undergoing Endovascular Treatment: A Meta-analysis

Authors aimed to assess the impact of general anesthesia versus conscious sedation on the outcomes of ischemic stroke patients who underwent endovascular treatment. They analyzed data from published trials and reported their meta-analysis results in this manuscript. Study question is somewhat original and represents a multidisciplinary interest topic. Please find detailed comments below.

Major Comments:

* How was general anesthesia (GA) defined? If GA was defined as all intubated patients, this would be an error, because many of those patients were possibly intubated due to their neurological status instead of a routine or elective choice. Such error may even lead to a type I error. This major issue can technically explain why there was a major statistical difference in the non-randomized studies, but not in the randomized controlled studies. In non-randomized studies, the choice of sedation/anesthetic was most likely due to either technical concerns (difficulty of interventional procedure) or safety concerns (airway patency).

Please explain and provide discussion.

* Were the patients in the GA group controlled for their baseline NIHSS scores? Please report the baseline neurological status of all patients (NIHSS, GCS). If the baseline NIHSS
and/or GCS were higher (or lower, respectively), then this would provide explanation to this reviewer's first concern.

* Two large trials included in the meta-analysis, Abou-Chebl et al. 2010 and Bekelis et al. 2017 which got quality scores of 5 and 6 included more than 2,000 patients to their analyses. Therefore, I'd suggest an additional separate meta-analysis, which excludes trials receiving quality scores less than 7.

* Also, within the RCT reported in this meta-analysis manuscript, Abou-Chebl et al.'s 2017 trial was in fact not randomized for GA vs. CS. That study (and possibly some others) was randomized to a different intervention not for anesthesia vs. sedation. Therefore, this study (and other RCTs which did not randomly assigned the anesthesia/sedation approach) should be listed under the non-randomized retrospective category, because they did not randomly assigned the anesthetic approach, and instead they gathered the anesthesia approach in a secondary retrospective analysis.

Minor Comments:

* Abstract, Conclusions: CS was misspelled as "GS". Similar spelling errors can be found in the Conclusion statement of the manuscript. Please revise.

* There are some grammatical errors throughout the text. Please revise.

**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 recommend additional statistical review
**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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