Reviewer’s report

**Title:** The Triple Variable Index combines information generated over time from common monitoring variables to identify patients expressing distinct patterns of intraoperative physiology.

**Version:** 0  **Date:** 02 Aug 2018

**Reviewer:** Narges Ahmidi

**Reviewer's report:**

The authors executed an impressive task of collecting a useful database for their study. However the analysis of the data is insufficient and not justified. The clinical relevance of their analytical decisions also were not mentioned. The paper itself lacked proper description of analysis which made it hard to comment properly how to improve them, for example, the definition of basic variable TVI profile was not given properly, which made the rest of the paper confusing. The decision to use an unsupervised algorithm was ambiguous where they could choose a supervised algorithm, because they had already reported outcome for patients.

It's possible that the authors had very good reasons for the set of analysis they did, but this was not communicated with the reader and therefore the paper just read as a report of analysis done and not their justifications and reasoning.

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

No

**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.

No

**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:

Not suitable for publication unless extensively edited

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal