Reviewer's report

Title: Cost analysis of the stroke volume variation guided perioperative hemodynamic optimization - an economic evaluation of the SVVOPT trial results

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Reviewer: Thomas Scheeren

Reviewer's report:

With great interest I have read the presented manuscript on the cost analysis of a GDT study the authors published recently. The authors found that hemodynamic optimization (they used SVV and CO optimization guided by the FloTrac/Vigileo monitoring system) reduced the incidence of complications (previous study) and that this was cost effective or even reduced global treatment costs (this study). In general, the paper is well written, and provides an accurate and clear message. However, I have some concerns that need to be addressed:

Specific Comments:

• Introduction: I miss a hypothesis underlying the current investigation. Although it is obvious, I would state something like: “We hypothesized that the reduced number of complications found in the SVVOPT study were also associated with lower general treatment costs.”

• Methods: Although I realize that the labelling of groups was taken from the authors' initial publication, a more scientific nomenclature would be better: consider renaming the Vigileo group in, e.g., GDT group.

• Results, third para: in table 1 it is shown that infection treated costs, hospital stay acquired costs as well as intravenous fluid costs do NOT differ significantly between groups (Vigileo/GDT vs control). Therefore, the authors have to either omit these statements or describe them as a tendency.

• Results: please consider presenting the main results given in table also in text form.

• Discussion, first para: “…the duration of ward stay were the most important cost drivers”. Again, from the results section it appeared that hospital stay acquired costs did NOT differ significantly between groups (Vigileo/GDT vs control). So this conclusion is not supported by the data presented. Please clarify.

• Conclusion: the conclusion section nicely summarizes the main study findings. However, I miss a conclusion on what this means in terms of improving patient care and what the possible future perspectives are.

Minor points:

• Please give page numbers

• Introduction, 3rd sentence: this is not a full sentence. E.g. combine with previous one.
• Tables 1 and 2: I guess all the numbers are given in Euros? Please clarify (legend).

• Table 2: what does a negative number for additional costs mean (e.g. non-infectious hospitalization costs)? Please clarify.

• Discussion, 1st page, last para: “including FloTrac and Vigileo” implicates that these are two different devices. Please change to FloTrac/Vigileo or simply Vigileo as written throughout the paper.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests