Reviewer’s report

Title: Point-of-Care Versus Central Testing of Hemoglobin During Large Volume Blood Transfusion

Version: 0 Date: 06 May 2019

Reviewer: Taner Abdullah

Reviewer's report:

Dear Authors,

Thank you very much for a hard work and nicely written paper. I would like you to address some concerns, which are critical from my point of view.

a) it is possible to compare two different methods for hemoglobin measurement with samples that have not been taken on the same time point. yet, for performing this comparison, patients must be in a stable condition regarding hemoglobin values. In the case of massive transfusion, the patient's hemoglobin value may vary even within a minute due to transfusion and massive blood loss. delta-hemoglobin levels in figure-1 demonstrates that the difference between hemoglobin values measured by two methods with can reach up to 5gr/dl in two ways. it is difficult to say that these results are not affected by the comparison of samples from different time points. It is highly controversial to use such a method in patients with unstable hemoglobin values.

b) the definition of massive transfusion protocol is stated as "the administration of at least one blood volume worth of blood, or approximately 10 units of homologous red cells for acute blood loss within a 24 hour period". how did you calculate the blood volume of a patient? what is upper and lower limits of "approximately 10 units"? this definition must be more certain since this is the main inclusion criteria

c) You have very well explained how conductometric measurements can be affected by different situations. In line with this, reading the reasons that disrupt your results in your study group would be enlightening. which were observed more frequently; temperature disorders, electrolyte disturbances, impaired mcv values etc?

d) how do you explain the different results in different patient groups underwent massive transfusion protocol? in your opinion, what are the reasons for the low performance of epoc in general surgery patients?

e) almost all reasons that affect conductometric measurements can be seen in a cardiac surgery. yet, it seems like epoc works better in cardiac surgery patients than it works in general surgery patients. i believe these results should also be discussed in discussion section.
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.

Yes

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

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