Reviewer's report

Title: Pulmonary vascular permeability index in patients with femoral venous access for transpulmonary thermodilution: a prospective observational study

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Reviewer: Zsolt Molnar

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In this prospective study the authors evaluated how in their view pulmonary vascular permeability index (PVPI) should be calculated to provide consistent information when a femoral venous access is used. The major finding was, that applying a “correction approach” they published earlier regarding the global end diastolic volume (GEDV), both bias and percentage error could be reduced, the latter from 22% to 4%.

Major comments

Understanding and interpreting data given by any monitor is of utmost importance, as without it spending money, time and effort on monitoring would be a waste of time. Therefore, the efforts of the team lead by Dr Huber, which produced several papers in this regard over the last years has to be congratulated. These are my comments:

1. I found the description of the method on p6 lines 6-17 a bit difficult to understand and also confusing in general.

2. Especially the sentence inline 9: ‘Parameters calculated from these displayed values were subscripted with “calculated”.’ What does calculation mean? I couldn’t find it.

3. The same applies for that sentence from line 13-17. I think it needs more clarification as an average reader may get lost and also loose interest at this point. BSA-predicted is not what the equipment uses? In my understanding, GEDV-displayed is what we measure during thermodilution, and then the monitor divides it with the BSA, which in the case of PiCCO 2 should be the predicted. Or I am wrong? If yes, then please explain.

4. Finally, I totally agree with the authors, mentioned in limitations, that these findings could be supported by parallel thermodilution measurements using a CVC in the superior vena cava and a femoral CVC line. I would go even a bit further: In my opinion, the only way to confirm their observation is, to do a comparison of the two simultaneous measurements. Of course it is not easy as it can only be done in patients who have both catheters for treatment purposes (on hemofiltration for example), as from the ethical point of view it would not work in any other way.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests