Reviewer’s report

Title: Use of esophageal balloon pressure-volume curve analysis to determine esophageal wall elastance and calibrate raw esophageal pressure: a bench experiment and clinical study

Version: 0 Date: 16 Dec 2017

Reviewer: Tommaso Mauri

Reviewer’s report:

Interesting study on oesophageal elastance and its impact on oesophageal pressure measurement.

Introduction is clear, just more precisely mention that the topic is relevant for absolute measures of transpulmonary pressure but also relative measures based on lung/respiratory system elastance exist.

Methods section is very long, consider reducing it by 30-50% and move some of the content to an online supplement.

The rationale for performing the patients study is not clear.

Table 1 is very little useful to the results, consider moving it in the online supplement.

Why Vbest was so different between in vitro and in vivo?

Too many figures, please choose 2-3 most interesting and move others online.

The proposed test for calibration is with 2 points (0.6 and 1.4) or 3 (0.6 1.0 1.4)?

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 am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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