Reviewer’s report

Title: The combined impact of mechanical factors on the wall stress of the human ascending aorta - a finite elements study

Version: 0 Date: 23 Oct 2017

Reviewer: Efrem Civilini

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This study by Tomasz Plonek and collaborators analyzes aortic wall stress including pathological geometries subjected to different grades of aortic root motions and blood pressures.

The good of the computational model is enforced by the correlation between the predicted results and the most commonly found entry sites in real case-scenario aortic dissections.

From my point of view, however, while SAS has been evaluated well beyond the physiologic stretching (i.e. 15 mm), systolic pressure of 200 mmHg, commonly found in the acute setting of acute dissection, has not been included in the analysis. Can the Authors explain why this element has not be assessed?

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.

Unable to assess

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.

Not relevant to this manuscript
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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