Reviewer's report

Title: CORRELATION OF STRUCTURAL DEFECTS IN THE ASCENDING AORTIC WALL TO ULTRASOUND PARAMETERS: BENEFITS FOR DECISION-MAKING PROCESS IN AORTIC VALVE SURGERY

Version: 0 Date: 26 May 2017

Reviewer: Hardy Baumbach

Reviewer's report:

The manuscript discusses the correlation between histopathological changes in the aortic wall and echocardiographic measurements.

The manuscript is well written. However minor language corrections should be obtained. For example it is "aortic wall" and not "aorta wall".

In the background section the authors should discuss why the study was performed and what impact the results could have. They should describe what the guidelines actually say (as they did in the discussion section). When reading the background section the reader should understand: what is the current state in guidelines, why was the study performed and how should the reader benefit from this study.

Table 1 is called "baseline characteristics". However the table presents the histopathological grades as well. The grades are no baseline characteristic but belong to the results of the study. These should be presented in a separate table.

The authors should discuss in their discussion section, why there is a correlation between grades and diameter of STJ and ascending aorta only? Why does the ventriculo-aortic junction and sinus Valsalva not extend according to the grades?

Overall after reading of this well written manuscript, I do not exactly understand the benefit of this study. In current guidelines, indication for ascending aortic replacement is guided by the diameters of the ascending aorta and this study tells us that increased diameters are associated with higher grades of aortic wall changes. That aortic wall changes increase with increased aortic
diameter is not surprising or unexpected. Therefore, is there any conclusion the authors can draw according to guidelines? Should the indications for operation be expanded? Should the patients be operated earlier and with a smaller diameter because of changes grade 3? To answer this question, further studies should be undertaken to evaluate if grade 3 is associated with a faster dilatation after AVR than grade 2 and 1. However, the authors should discuss in more detail, what the reader can learn by reading this study.

Level of interest
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An article of limited interest

Quality of written English
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Needs some language corrections before being published

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