Reviewer's report

Title: Orthostatic stress echocardiography as an useful test to measure variability of transvalvular pressure gradient in aortic stenosis.

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Reviewer: Julien Magne

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This paper by Dimitrow et al. aimed to identify whether aortic hemodynamics may changes from resting supine position to upright position using orthostatic stress test.

They have analyzed the Doppler echocardiographic data of 35 patients with symptomatic aortic stenosis (AS) both in supine and upright position using orthostatic test. They found that the vast majority of patients with symptomatic AS exhibited a significant decrease in peak gradient (PG).

Major Compulsory Revisions

1- The method section could be improved by adding details regarding echocardiographic data acquisition, orthostatic test, inclusion criteria, period of recruitment, whether the study is prospective or not…

2- A lot of data are lacking in the results section, as well as in the Table 1. Statistical comparison between supine and upright position should be reported. The comparison of others hemodynamics data (i.e. not only PG) should be provided.

3- A figure describing the individual changes of hemodynamics data could be added.

4- More importantly, the data regarding changes in LV stroke volume, cardiac output, cardiac index and even in systolic blood pressure should be provided. Indeed, the changes in PG are very likely to be related to a significant decrease in LV stroke volume. Furthermore, the relation between changes in flow condition and in aortic hemodynamics data could be analyzed.

5- The authors stated that they have used a Student t-test to compare the data. Paired t-test should be used for this study design. This point could be clarified.

6- The clinical implications of these results could be more extensively discussed.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a
statistician.

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