Reviewer's report

Title: Three-dimensional echocardiography using single-heartbeat modality decreases variability in measuring left ventricular volumes and function in comparison to four-beat technique in atrial fibrillation

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Reviewer: Lorenza Pratali

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In this study written by Shahgaldi K, LV volumes and ejection fraction were evaluated by 3d Echo by different modality of acquisition: four-beats ECG-gated full volume and one beat ECG-gated full volume in subjects with sinus rhythm and in subjects with atrial fibrillation. The authors demonstrated that single beat acquisition seems to be superior to 4-beats acquisition in measuring left ventricular volumes and ejection fraction in pts with atrial fibrillation this point is very important for one the most limitation in 3D echo method: the RR variability.

Minor essential revisions
- In the results paragraph the part reproducibility: the numbers are just presented in Table 4 and is not necessary in the text.
- Should be interesting to add the time resolution of the two modality used. The authors in the discussion section presented different results in comparison with a recent publication by Macron L. 2010. Macron described a underestimation of EF% with single beat acquisition where Shahgaldi do not find this difference and explained this difference to a higher time resolution of single beat acquisition of the present study, but we don’t have any data on time resolution in the results.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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'