Reviewers report

Title: Left Ventricular Twist is load-dependent as shown in a large animal model with controlled cardiac load

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Reviewer: Laura Ernande

Reviewers report:

A’Roch et al. provided a manuscript entitled “left ventricular twist is load-dependent as shown in large animal model with controlled cardiac load”. The objective of the study was to characterize the effects of acute load change and change in inotropic state on rotation parameters as a measure of left ventricular contractility. Left ventricular torsion parameters were assessed by speckle tracking imaging during systole and diastole in 7 juvenile pigs during a load reduction by inferior vena cava balloon catheter associated with inotropic stimulation by adrenaline and after administration of beta-blocker+verapamil+phenylephrine. The authors conclude that left ventricular twist and untwisting rate are strongly dependent on load.

Please find below some comments and suggestions.

Major Compulsory Revisions

1. As stated by the authors, the load dependence of left ventricular torsion has been already reported in numerous papers in both experimental models and humans. The additional value of the present experimental study as compared with previous studies is not clearly stated.

2. From a methodological point of view, why did you choose to test at the same time preload decrease and inotropic stimulation or inotropic negative drugs effects? In addition, the main objective of the study was to test the load dependency of LV torsion parameters: why did you not test preload increase and afterload increase?

3. From a statistical point of view, you exposed your results as mean ± 95% confidence interval assuming a Gaussian distribution but you chose to use the Wilcoxon signed-rank test, a non parametric test. How do you justify?

Minor Essential Revisions

1. The objective in the abstract is not present in the manuscript.

2. Please define all abbreviations in the manuscript

2. Do not use abbreviation in the table titles

3. Some journals are not correctly cited in the reference section

Level of interest: Reject as not of sufficient priority to merit publishing in this journal
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

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