Reviewer's report

Title: Age and gender specific normal values of left ventricular mass, volume and function for gradient echo magnetic resonance imaging: a cross sectional study

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Reviewer: Juha Koskenvuo

Reviewer's report:

This manuscript entitled "Age and gender specific normal values of left ventricular mass, volume and function for gradient echo magnetic resonance imaging: a cross sectional study" by Dr Peter A Cain and colleagues is an important report of clinical application of cardiovascular magnetic resonance. Patient population is big enough for creating reference values and also statistics seem to be reasonable. This data is worth of publication but not in its present form.

Major compulsory revisions
1) Study aims- they are talking about physiological variation and reference values as different tasks. It is confusing as they mean the same thing with these terms. However, at first, I thought that they have studied day-to-day or intra-day variation of these parameters which they have not done.
2) The earlier observed difference between volumetric parameters of SSFP and gradient echo derived CMR should be discussed.
3) Effect of temporal resolution, valsalva or muller maneuver during breath-hold sequence and gating (prospective vs retrospective) on LV parameters should be discussed shortly.
4) Study population. Reader likes to know how many people were tried to recruit and how many participated to the study. Do this cohort really represent normal population? It may be difficult to answer. Races of the study subjects should be mentioned.

Minor essential revisions
1) Use lower instead lesser word in results section of abstract.
2) Background-second paragraph-first sentence: It does not make sense.
3) Study population: It should be made clear what reference limits were used for children to prove them healthy. Adult values are really abnormal in young teenagers.
4) Results: the unit for all BSA adjusted values should be XX/m2 not xx/g2.
5) Discussion: Describe shortly previous studies and the amount of the study subjects on them.
6) Abstract-First sentence- reformulate. Don't use un-opened abbreviations
7) Results- ii): End-diastolic and end-systolic volume, no end diastolic and systolic volume.

Discretionary revisions

1) Use CMR consistently. No MRI.
2) Use valvular regurgitation. No leakage.
3) Linguistic revision may improve the manuscript.

Level of interest: An article whose findings are important to those with closely related research interests

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:

No competing interests