Reviewer’s report

Title: Normative reference ranges for echocardiographic chamber dimensions in a healthy Central European population: Results from the Czech post-MONICA survey

Version: 0 Date: 07 Aug 2019

Reviewer: Yong Hyun Park

Reviewer's report:

In this manuscript, the authors aim to derive values including reference range for echocardiographic measurements and degrees of abnormality from a randomly selected population sample in the Czech Republic.

They concluded that age, gender, and measurement method significantly affect cardiac dimensions and function and should be always taken into account.

I have several suggestions for this meaningful manuscript.

1. All the previous studies seeking normal reference range in a population such as NORRE study (ref. 9) provided average +/- standard deviation for reference range.

Unfortunately, normal reference values for the chamber dimension and mass were not provided in this manuscript.

The authors only provided a cut-off number for degrees of abnormality in Table 4, 5.

   I would like to recommend the authors to provide normal reference values for the echocardiographic measurement in the form of average +/- standard deviation.

   To provide a better sense of the normal reference range for the readers, the scattergram of each measurement in Figure 3 might be helpful.

2. It would be better for the authors to explain why they chose percentiles as the degree of abnormality instead of standard deviations.

   Also, please provide the rationale or clinical relevance for stratifying the degree of abnormality as mild, moderate, severe.

Minor comment

3. I would like to recommend the authors to provide representative images showing the discrepancy between 2D measurement and M-mode measurement of wall thickness.

4. Because height and weight have an influence on the chamber dimension, it would be interesting to have these data in the supplemental Table for each age by a decade.

   If there were differences in the height between generations, it might explain the influence of age on
the echocardiographic measurement.

5. Were all the echocardiographic measurements performed in the central core laboratory? Please specify in the method section.

6. In page 6, line 10: pulse tissue Doppler --> pulsed wave tissue Doppler

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