Reviewer’s report

Title: Pre-contrast T1 and cartilage thickness as confounding factors in dGEMRIC when evaluating human cartilage adaptation to physical activity

Version: 0 Date: 23 Sep 2019

Reviewer: Tzu-Chieh Liao

Reviewer's report:

This paper is well-written and good to read. Some suggestions are listed as follow.

Methods

Of all the subjects, only 2 subjects were female, and were in the same group. I would suggest mentioning gender as a limitation. Also, would the results be different if the females were not included? Females have thinner cartilage by nature.

How are the segmentation performed? By one examiner? Was a reliability testing carried out prior? Given the cartilage layer is thin, and you further characterized into deep and superficial layer, I would anticipate some degrees of error.

It is not known if segmentation was performed on all slices? Or certain slices? How did you determine the border of segmentation (anatomically?) (i.e. WB vs NWB)

Please elaborate on the quantification of cartilage thickness. Is it the average thickness? Or the maximum?

How is GD concentration measured? This is not mentioned

Description of Table 3 mentioned data for both superficial and deep regions, but the table only showed data on superficial region.

Discussion

The discussion was relatively short. How were the results compared to the previous study (ref 17- elite vs sedentary)?

Please provide one sentence of clinical significance.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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