Reviewer’s report

Title: Half-body MRI volumetry of abdominal adipose tissue in patients with obesity

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Reviewer: Rossano Girometti

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- Very interesting topic, and original technical approach to a real problem in clinical practice.

- Overall sounding and logically organized study.

- Providing the link to the segmentation software is really of added value in terms of reproducibility.

- Nice Discussion.

Some suggestions from my point of view.

1. Introduction, page 3, line 7. Please, spell out "NCD".

2. Introduction, page 3, lines 14-21. I believe that the average reader would benefit from understanding what "segmentation of multiplanar images" and "quantitative measures" mean, exactly. My suggestion is to (reasonably) expand this part of the Introduction to better focus on the current role for MRI in the setting of obesity.


4. Materials and Methods, paragraph "Study population". Please, provide a STARD criteria-oriented description of the enrollment process, which is currently vague, e.g., whether the study was prospective or retrospective, inclusion criteria (e.g., any NMI cut-off?) /exclusion criteria (and number on excluded patients if any), and whether MRI was performed for research purpose or any other indication (this would help understanding whether your enrolled consecutive patients and to exclude selection bias). In this light, the first sentence of the next paragraph should be more properly moved here.

5. Materials and Methods, paragraph "Magnetic Resonance Imaging". It is legitimate referring to previous works for details on the experimental setting. However, readers/other scientists cannot have access to those articles, thus limiting the reproducibility of your results. I believe that the MRI protocol should be described more in deep here and/or in a table, to show current readers whether your results have been obtained robustly and in a reproducible way. Otherwise, the acquisition parameter description sounds too poor, even for a "technical advance" article.

6. Materials and Methods, paragraph on "Image analysis".

a) Please, expand "as reported previously" (see also point # 5).
b) Who performed image analysis? How experienced was she/he?

c) Please, spell out "ASAT" and so on.

d) Was the aim to segment right side vs. left side vs. both sides on a per-patient basis, and then comparing all right sides vs. all left sides vs. both sides? Please, provide a clear definition of what you measured and compared, since it is quite unclear at the moment.

e) Please, define clearly what "reference" means, exactly.

7. Materials and Methods, paragraph "Statistical analysis".

a) Please, define "predicted values".

b) Did you check for the pre-requisites of Bland-Altman analysis, i.e. the normal distribution of the differences between measurements? Indeed, the plot in Fig. 2b shows somewhat divergent mean differences as the average differences increases. Please, verify the analysis pre-requisites and perform logarithmic transformation of the data if needed (see Giavarina D, Biochemia Medica 2015;25:141-151).

c) I suggest to provide intraclass correlation coefficients to complement Bland-Altman analysis.

8. Results.

a) Volumes are expressed in cm. Did you mean cm³?

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.

Yes

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

No
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

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Please indicate the quality of language in the manuscript:  

Acceptable

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