Reviewer's report

Title: Quick assessment with controlled attenuation parameter for hepatic steatosis in children based on MRI-PDFF as the gold standard

Version: 0 Date: 28 Dec 2018

Reviewer: Oyekoya Ayonrinde

Reviewer's report:

This is an interesting and well-written manuscript that adds to knowledge on noninvasive assessment of hepatic steatosis in children. I have a few comments:

1. The introduction should include a summary of why steatosis assessment is important in children e.g. with rising obesity rates and consequently NAFLD rates in children and adolescent populations there is increased risk of NASH, cirrhosis and metabolic syndrome etc at young ages. What is the prevalence of obesity and NAFLD in the general population of children/adolescents in the region studied?

2. Page 3 line 46 - I'm not sure it is valid to use BMI30 rather than existing age-adjusted BMI

3. Page 9 line 186 - the stated optimal CAP cutoff values of 299 and 303 are similar. Suggest adjusting sensitivity and specificity to reset the cutoff.

4. Please report positive predictive values and negative predictive values.

5. Page 13 - comment about utility of MR elastography and recent published cutoffs for elastography (Bazerbachi F, et al). Range of Normal Liver Stiffness and Factors Associated With Increased Stiffness Measurements in Apparently Healthy Individuals. Clin Gastroenterol Hepatol. 2019 Jan;17(1):54-64.e1.). Also, are you able to include liver stiffness measurement (LSM) results? Were there any children/adolescents with suspected NASH?

6. A new table similar to Table 1 but comparing BMI, AWT, serum transaminases, lipids, insulin and glucose in those with raised CAP compared with those with normal range CAP, and also in those with different raised and normal PDFF categories would increase clinical appeal and interpretation of the significance of the results.
7. It may not be appropriate to analyse the whole cohort together, as adipose distribution in males and females is different, with girls having markedly higher subcutaneous thickness (including abdominal wall) than males do (see Ayonrinde OT, et al. Childhood adiposity trajectories and risk of nonalcoholic fatty liver disease in adolescents. J Gastroenterol Hepatol. 2015;30(1):163-171; and Ayonrinde OT, et al. Gender-specific differences in adipose distribution and adipocytokines influence adolescent nonalcoholic fatty liver disease. Hepatology. 2011;53(3):800-809).

8. Figure 1 doesn't add much to known information and can be removed.

9. I suggest splitting Figure 2A and 2B by gender.

GENDER DIFFERENCES ARE ESSENTIAL TO INTERPRETATIONS IN THIS STUDY and would enrich it.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

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

Acceptable
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organisation that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal