Reviewer’s report

Title: Feasibility study and reference values of FibroScan 502 with M probe in healthy preschool children aged 5 years

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Reviewer: Imeke Goldschmidt

Reviewer’s report:

This manuscript reports reference values for transient elastography and CAP in an impressively large cohort of pre-school children. In addition, results for TE and CAP are compared to liver function tests, plasma lipids and anthropometric parameters. The main merit of this publication in my opinion is indeed the provision of well-founded reference values for TE and CAP, although the limitation to one specific age group reduces its applicability. This is particularly true for TE, where age dependency of LSM results has been repeatedly reported. However, this limitation is appropriately addressed in the discussion.

I have the following criticisms:

First and foremost, the manuscript needs a thorough revision with regards to English grammar and style.

Presentation of the data appears appropriate; however, all tables need to be checked for consistency in line break. For parameters such as height, weight and BMI, it would be useful not only to present absolute values, but also centiles or z-scores.

In the discussion, the authors claim that due to the observed correlation of CAP results with parameters of body composition, namely fat mass content, waist circumference and percent of body fat, CAP may be a useful tool to screen for fatty liver. Given that CAP was specifically developed to assess hepatic fat content and that the latter depends on body composition, the observed correlation is rather reassuring, but not really a surprise. I am concerned however about the conclusion that CAP values exceeding the 75th centile should prompt measures to prevent fatty liver, and that CAP values exceeding the 95th should raise awareness of fatty liver. I feel that in a cohort that has specifically been selected for being healthy, with obese children excluded a priori, normal plasma lipids and with normal growth parameters, i.e. without any children at risk for developing fatty liver, the claim that 25% are at risk of developing fatty liver cannot be made without more evidence. In contrast, describing normal values suggests that CAP values above the 75th centile are exactly that - normal - in 25% of the population. Any claim on the clinical predictive value of these CAP values needs more basis in facts, including liver ultrasound (despite its limitations correctly mentioned in the discussion), liver histology and additional markers of fatty liver disease.
With regards to transient elastography, please be aware that the manufacturer's recommendation for use of the S probe goes up to 75 cm chest circumference, not 45 - if it didn't, using the M probe in children with a mean of around 50 cm chest circumference would not be so exceptional. Also, there is data in the literature that in paired comparison, using the M probe will yield lower values than the S probe. This should be mentioned when the authors discuss their results compared with the existing literature.

In summary, while reference values are useful for clinicians using TE and CAP in their daily practice, there is nothing particularly new or original about publishing these reference values. I feel that they should nevertheless be published, but I would argue against over-interpreting the results. In any case, the discussion needs to be streamlined and revised, and some thorough language polishing is required.

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?
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Yes

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I am able to assess the statistics

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

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