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Title: Accuracy of multi-echo Dixon sequence in the quantification of hepatic steatosis in Chinese children and adolescents

Reviewer 1

Reviewer's code: 00503561

Reviewer's country: Japan

Reviewer's comments to authors:

I checked 1-14, and these are fulfilled in the manuscript. This is an important, basic information for liver image information for young people. This information will minimize injurious examination such as liver biopsy. As they are aware, the metabolic markers were not connected in this study and they state "prospective", but actually one-point study of the cohort. Just address: 1. Define "healthy children". 2. Address whether the cohort can be followed up. 3. Any particular background of obese children; such as lack of exercise, over eating, and some unknown genetic predisposition. 4. Just confirm any viral hepatitis, metabolic disease, and family history may interfere the data.

Answers to reviewer 1:

First of all, thank you for taking the time to review our manuscript. This is an observational study, we state it "prospective" by mistake, we have revised it in the manuscript. As we mentioned in the manuscript, "healthy children" that enrolled in our study, their BMI and serum aminotransferase were normal. They also needed to meet the exclusion criteria included type 1 diabetes, drug-induced hepatitis, hepatitis virus infection, hepatolenticular degeneration, chronic liver disease or other chronic diseases that did harm to hepatic or renal function, alcohol consumption, contraindications of MRI including metallic implants, claustrophobia and so on; - For the second question, we contact all participants by telephone or WeChat, which would

make it possible to follow up the cohort; - From our brief survey of personal lifestyle habits, we learn that most of obese children are lack of exercise and sedentary; - As we state in our manuscript, all the participants needed to meet the exclusion criteria to exclude viral hepatitis, metabolic disease or any special family history.

Reviewer 2

Reviewer's code: 00069814

Reviewer's country: Egypt

Reviewer's comments to authors:

Interesting study well done

Reviewer 3

Reviewer's code: 03622349

Reviewer's country: Brazil

Reviewer's comments to authors:

Zhao et al evaluated the paper entitled "ACCURACY OF MULTI-ECHO DIXON SEQUENCE IN THE QUANTIFICATION OF HEPATIC STEATOSIS IN CHINESE CHILDREN AND ADOLESCENTS". The topic is quite interesting and the paper is very well written, with clear language. However, some questions have arisen and need to be better clarified. In view of the fact I will give the authors the opportunity to revise some points before resubmitting to the journal. Comments: - As for the abbreviations, I suggest to reduce them in the abstract. Moreover, many of them were described in the text but were not detailed previously. Check all the text; - It might be interesting to correlate the food intake of children and adolescents to the degree of hepatic steatosis, since biochemical markers were not determined in the study; - Have the authors considered sedentarism as an inclusion factor? I consider physical activity and the control of food intake fundamental to development of hepatic steatosis, since they are determinants for the

establishment of insulin resistance; - Do the imaging tests require some preparation of patients, such as fasting? Were they performed at what time of the study? - The authors did not discuss the feasibility of the method concerning the cost and the radiation exposure. Imaging tests are usually expensive and leave individuals exposed to radiation. This method would not harmless to children and adolescents? Since other methods sedimented in the literature are cheaper and do not require exposure to radiation.

Answers to reviewer 3:

Thank you very much for your comments. As for the abbreviations in our abstract, we have considered this situation when we wrote the paper. In our study, we focus on quantifiably diagnosing of nonalcoholic fatty liver disease with magnetic resonance. So, in the abstract, "Nonalcoholic fatty liver disease (NAFLD)", "magnetic resonance imaging (MRI)", magnetic resonance spectroscopy (MRS) and "hepatic proton density fat fraction (PDFF)" are used repeatedly. In addition, we have also defined the abbreviations that appear in the text and figures for the first time. We have highlighted these changes in red in the revised manuscript; - Due to the improper setting of questions in our brief survey, we just roughly ask what kind of food they usually take and how often they take them. It is difficult to quantify the food intake of our participants. So, we do not correlate the food intake of children and adolescents to the degree of hepatic steatosis; - We have taken sedentarism as a risk factor into consideration but not an inclusion factor; - We performed the imaging tests when all participants are fasting; - CT are radiation exposure, but magnetic resonance is considered non-radiation exposure. Hence, this method is harmless to children and adolescents. As for the cost of tests, it is a little expensive and may limit widely use of this method in China. But magnetic resonance appears to detect hepatic steatosis in Chinese children and adolescents successfully and accurately, it is meaningful for the early diagnosis and prevention of NAFLD. I think it is worthy of the costs.