Reviewer’s report

Title: Size-adjusted muscle power and muscle metabolism in patients with cystic fibrosis are equal to healthy controls – a case control study

Version: 1 Date: 16 Oct 2019

Reviewer: Mathieu Gruet

Reviewer's report:

The reviewers nicely addressed all the comments raised in the first round of revision. The answers are accurate and the associated changes in the manuscript are of good quality. The manuscript has been much improved. I only have some further minor comments.

Abstract:

* first sentence: "reduced muscle function" is weird, i suggest to replace by "skeletal muscle dysfunction" or "peripheral muscle dysfunction"

* Wingate anaerobic test to assess muscle "power" is more accurate than "muscle function" Correct also within the manuscript if relevant

* In the results of the abstract: would be great to give some exact p-values when relevant

* Conclusion: I still believe that "muscle function" is too vague here. Because for instance, it may also include muscle endurance and fatigability and I would not say that "it is well established ("well-known") that CF patients have alterations in muscle endurance" for instance. So try when applicable to change muscle function by the appropriate terms (eg power, strength, etc…)

* P6 "One important confounder in the assessment of muscle function and exercise capacity

is the adjustment of the test results for variations in body size" : in body size but also "muscle size" right?

Background:

* Reduced aerobic and anaerobic capacity implies exercise intolerance, so there is redundancy here, I would thus rather say, for instance […] "associated with exercise intolerance, including both reduced aerobic and anaerobic capacities", etc…
Hypothesis: "hypothesis was that muscle function and metabolism would not be clinically significantly different between CF and controls". I guess you mean "would not be clinically significantly different between CF and controls when accounting for likely differences in body/muscle size? Because you said in the revision that you initially expected larger differences in muscle metabolism during exercise between CF and controls, so I guess you expected differences in absolute values but not when appropriately normalized, right? So I suggest to slightly reformulate the hypothesis.

Regarding the use of the wingate test: instead of saying (eg in the discussion) that is a way to have more details regarding muscle function in CF, it would be great to explain why both approaches (local quadriceps test vs wingate test) are complementary?

Methods:

Sorry if I missed it but could you specify how you chose the increments for the CPET (eg absolute, relative increments?) and what is the version of the wingate test you used? (i.e. duration). The latter is of importance as according to the duration (eg &gt; or &lt; 30-s) all versions of the wingate test may not all strictly rely on the sole anaerobic metabolism, and for the longest versions of the wingate test, dyspnea (in patients with respiratory issues) may be a confounding factor.

Discussion:

It is a bit weird to begin the discussion with sentences dealing with CPET as it is not the main finding of the study. Especially because you have a lot of results, I suggest to start the discussion with one or two sentences that summarize the main findings of the study.

End of the discussion: still not a big fan of the word "sprint group". Could you find something more appropriate here?

Conclusion: I think it would be great for such kind of study which is rather mechanistic to have few sentences regarding the clinical implications of the findings. How the knowledge that peripheral muscle dysfunction is CF is mainly related to a quantitative issue may influence the package of care of these patients?
Table legends: it depends on the journal guidelines, but consider to list the abbreviations in the legend for each table.

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If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
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