Reviewer's report

Title: Use of Imaging Biomarkers to Assess Perfusion and Glucose Metabolism in the Skeletal Muscle of Dystrophic Mice

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Reviewer: Tsuyoshi Matsumura

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The object of this study was to establish non-invasive imaging biomarkers for muscular dystrophies. The authors reported that perfusion and metabolic change could be sensitive biomarkers for regenerative process. Although their study was interesting, there are several points to be answered.

Major compulsory revisions

1. The authors explained the transient increase in perfusion and metabolism reflected the regenerative process. This advocacy should be confirmed with more data or evidences. Although histological changes were improved in mdx at endpoint, UDX showed dystrophic change all through the study duration. Nonetheless most significant decrease of all biomarkers occurred in UDX group.

2. They assessed the change of perfusion and metabolism using normalized data with respect to baseline values.
   A) In clinical practice, it is hard to set a common reference point. If it is practical, perfusion and metabolism per unit muscle volume or cross sectional area seems more convenient.
   B) There were certain differences in the baseline values (Table 1). These changes were significant, or not? Did not they have any influences on the results?
   C) It seemed that muscle atrophy could cause underestimation in the analyses. The data of UDX might reflect muscle atrophy.

Minor Essential revisions

3. There were mismatches of marks between Figure 3, 4 and their legends.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.