

PEER-REVIEW REPORT 1

Name of journal: Neural Regeneration Research

Manuscript NO: NRR-D-18-00236

Title: Semi-automated Segmentation of MRI Thigh Skeletal Muscle and Fat using Threshold Technique after Spinal Cord Injury

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Reviewer's country: JAPAN

Date sent for review: 2018-04-28

Date reviewed: 2018-05-13

Review time: 15 Days

1. Do you consider this paper is hotspots or important areas in the research field related to neural regeneration?

Yes I do.

2. Which area do you think this paper falls into? Neurorepair, neuroprotection, neuroregeneration or neuroplasticity.

NA

3. Is the manuscript technically sound, and do the data support the conclusions?

All participates should be analyzed.

4. Has the statistical analysis been performed appropriately and rigorously?

Yes

5. Is the manuscript presented in an intelligible fashion and written in Standard English?

Yes it is.

6. Your peer review comments will be published as an open peer review report. Do you agree to have your name included with the published article?

Yes

Manuscript Rating Question(s):	Scale	Rating
The subject addressed in this article is worthy of investigation.	[1-3]	2
The information presented was new.	[1-5]	4
The conclusions were supported by the data.	[1-10]	6

COMMENTS TO AUTHORS

In this manuscript, the authors described threshold technique of MRI images in thigh skeletal muscle and fat after spinal cord injury and reduced the time needed for analyses.

This report is clearly written and presents new technique for MRI image analyses for SCI patients. However there are several unclear points.

1. Authors randomly selected 10 participants in the line 164 and 170. I wonder whether semi-automated segmentation require selected cases to measure each CSA. It will be better to measure all 18 cases and discuss problem in the threshold technique.

2. Line 99: How did the authors evaluate in case of 15 images?



3. Line 123: Please explain differences between figure1a and figure1b cases in the section of Methods. It may be better that subjects are divided into two groups if there will be differences between segmentations of Fig1a and 1b cases.
4. Line 176-178: Three slices were evaluated in the KE. Twelve slices should be measured as same as other results.
5. Line 205: Errors of SAT CSA were mentioned. There were no errors of SAT CSA between manual and threshold techniques in the Fig 3. Why did the errors increased in the Fig 4? It will be better to show representative MRI images to indicate difficulties of threshold techniques.
6. There were the differences in the data of IMF in the Fig3. It will be better to show representative MRI images to indicate difficulties of threshold techniques.