Reviewer’s report

Title: A semi-automated measuring system of brain diffusion and perfusion magnetic resonance imaging abnormalities in patients with multiple sclerosis based on the integration of coregistration and tissue segmentation procedures

Version: 0 Date: 27 Aug 2015

Reviewer: Alexander Wong

Reviewer's report:

While the idea of constructing a fully-integrated software platform for measuring brain diffusion and perfusion magnetic resonance imaging abnormalities in patients with multiple sclerosis is important and highly relevant clinically and could make for a good technical advance, there are some major issues with the way the platform is presented and evaluated that must be corrected before publication:

1. The presented software platform is a combination of existing Matlab toolboxes from other researchers, and thus there is no novelty in the algorithms and processes used in the proposed software platform and thus the contributions purely lie in the integration and choice of these toolboxes into a coherent pipeline for measuring brain diffusion and perfusion magnetic resonance imaging abnormalities in patients with multiple sclerosis. However, the choices of particular toolboxes for each step are not well explained or justified, which makes it difficult for the reader to understand why these particular toolboxes are chosen compared to all the other ones that are available. The authors need to justify clearly why each toolbox is chosen.

2. The authors need to provide a much more comprehensive explanation and description on the algorithms used by the different toolboxes, so that the reader understands how they work and their strengths and weaknesses.

3. The experimental evaluation of the software platform is not well defined and very high level without proper details on procedure (e.g., number of patients tested, how many radiologists, what are their experience levels, etc.)

Also, no ethics approval information is provided so it is hard to judge whether the experiments have been approved. Further, there is no control method to compare their software platform against so the reader does not know whether the time improvement using the proposed software platform is significant.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No
Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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

Acceptable

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