Reviewer's report

Title: Magnetic resonance imaging after most common form of concussion

Version: 2 Date: 26 February 2009

Reviewer: Yu-Chien Wu

Reviewer's report:

Score notes: 5 means the best and 1 means the worst.
1. Is the question posed by the authors well defined? 4/5
2. Are the methods appropriate and well described? 3.5/5
3. Are the data sound? 3.5/5
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? 3/5
5. Are the discussion and conclusions well balanced and adequately supported by the data? 2/5
6. Are limitations of the work clearly stated? 2.5/5
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? 3.5/5
8. Do the title and abstract accurately convey what has been found? 0/5. There is no abstract.
9. Is the writing acceptable? 3/5

Major Compulsory Revisions
1. The authors need to refine their article especially the Background and Discussion sections to make clearer statements.
2. The author mentioned that it is not clear that whether the cause of PCS is organic or psychogenic. It seems that this is the motivation of this study. I would like to know the contribution of this study in answering that question.
3. For the Background section, it would be better to add a third paragraph that very briefly addresses how the authors plan to do their experiment. Why they think convention MR is adequate to answer this problem? Why not CT, EKG or other advanced MR such as DTI, MT and fMRI?
4. In Table 1 and 2, there are five patients and two controls with positive MR finding. Please explicitly explain why the final statistic testing used only three and one for study and control group, respectively. Please define what the “positive MR finding” caused by PCS is.

5. In the Discussion section, second paragraph, is the magnetic filed strength a limitation of this work or not? If it is a limitation, what would be the benefits from higher field? If it is not a limitation, did those studies with lower field strength (how low?) reach acceptable detecting power?

6. I am not sure the purpose of mentioning diffusion tensor imaging (DTI) in the Discussion section. What are the authors trying to say? Is it potentially useful for similar studies? Do results from other DTI study support results from this study or not? How alcohol abuse and DTI relevant to this study?

7. I would recommend rewrite the conclusion. The conclusion should summarize the contribution, the potential application and the take home message of “this” study.

Minor Essential Revisions
1. In the Background section, the third sentence beginning with “Several authors …”, please cite appropriate papers.

2. In the Background section, the last sentence of the first paragraph starting with “In recent studies …”, please rephrase this sentence or make it shorter. Also why is it important to mention the “insignificant” results of previous studies here? Do you imply PCS is psychogenic?

3. In the Methods section, the second paragraph, one sentence does not make a paragraph.

4. In the Method section, about the MR imaging, please include the total scan time, slice number and the anatomical coverage.

5. In the Results section, description of patients’ age range and mean should be in the Methods section.

6. In the Result section, please refine the section of MR findings. Please only report those findings that are important to this study. For instance, I am not sure subcutaneous hematoma has critical meaning to the whole study.

7. In the Discussion section, I am not sure it is a good idea to repeat so many details of other researches. Please make key points clear and explicit. Are those studies relevant to this study? Do their results support, compliment to or conflict with results of this study? Do their results help to answer the bigger question introduced in the Background section?

Discretionary Revisions
It might be interested to see the correlation between the time of unconsciousness and the prevalence of positive MR findings. However, this may require recruiting more subjects.

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

**Quality of written English:** Needs some language corrections before being published

**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.