Reviewer's report

Title: Meta-analysis of quantitative diffusion-weighted MR imaging in the differential diagnosis of breast lesions.

Version: 5 Date: 9 August 2010

Reviewer: Shannon Agner

Reviewer's report:

The revision of this paper is much better and clearer, and the authors have addressed previous concerns about the paper. One additional change to the Results section will make the paper stronger.

- Major Compulsory Revisions

1. A theme that the authors imply but do not explicitly make throughout the paper is that the variability in b values across studies makes the ranges and thresholds of ADC values difficult to interpret. When the authors present the meta-analysis results for the studies applying b=1000, the results are important, but no justification for picking b=1000 was discussed. A brief discussion of the choice of re-running the analysis for the b=1000 studies needs to be made, and a histogram showing the frequency of studies as a function of b value across all studies would be helpful to justify the fact that there were more studies using b=1000 than any other b value.

- Minor Essential Revisions

1. In the Abstract, the conclusion is unclear. It seems as though the authors are trying to articulate that b values are not standardized in DWI studies, making results difficult to compare across small studies. The last sentence of the Conclusion in the Abstract section is confusing.

2. In Background, “Numerous studies have been performed…” Is this referring to DCE-MRI. Please be clear.

3. In Background, the natural logarithm does not need to be defined. Also, it looks like an “i” instead of an “l” is used for the abbreviation in the equation.

4. In Background, “The parameters used in DWI sequences may affect the results of ADC calculation.” Remove this sentence. It seems out of place here.

5. In Background, “Theoretically, the diffusion sensitivity…” Move this sentence to follow the sentence defining ADC.

- Discretionary Revisions

None
Level of interest: An article of importance in its field

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.