Reviewer's report

Title: Brain Perfusion SPECT Analysis using Reconstructed ROI Maps of Radioactive Microsphere derived Cerebral Blood Flow and Statistical Parametric Mapping

Version: 1 Date: 28 August 2007

Reviewer: Dave Wyper

Reviewer's report:

General

This study explored the application of SPM to an animal model of traumatic brain injury and evaluated the correlation between perfusion SPECT with ECD and a 'gold standard' radioactive microspheres technique [RMT].

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The study has provided some interesting data, but with limitations.

1. The first of these is that the finding of a poor correlation between SPECT and RMT is due primarily to the limited SPECT resolution. A spatial resolution of 12mm is poor by today’s standards. This is acknowledged by the authors, but limits the value of the finding as much better equipment is available and should be used for cutting edge research.

2. The second issue concerns the assertion that SPM cannot be used for single subjects. This is not the case – see for example the references below. The second reference has been cited by the authors and so their statement that SPM cannot be used in single subjects is surprising.

Nothing can be done about the first of these issues. The second could be addressed by major revision of the discussion.

References:


Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests