Reviewer's report

Title: NG2 and phosphacan are present in the astroglial scar after human traumatic spinal cord injury

Version: 1 Date: 4 February 2009

Reviewer: Eve Tsai

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This is an excellent article and provides new knowledge with respect to the role of selected chondroitin sulphate proteoglycans (CSPGs) family members with respect to human spinal cord injury. The authors are to be congratulated for being able to collect such a high number of tissue specimens over such a wide range of timepoints post injury.

Major Compulsory Revisions

1. The methods overall are appropriate and well described. A more detailed description of their grading system may help to clarify their results. This could be accomplished by providing a picture for each level of their grading system or a detailed description for each level of their grading system or a reference for their grading system. I note that in their table, that none contain “++++”. Therefore, it may not be necessary to have a category that is “+++++”. In the text, they indicate “+++++” is “large numbers of labeled cells” and in the table the indicate that “+++++” is “maximum amount of cells”. If they could clarify what “maximum amount of cells” means, that might help improve the reader’s understanding and interpretation of the data.

2. NG2 has been shown to label both Schwann cells and oligodendrocyte precursor cells (OPCs). In their description, they indicate that there is regrowth or infiltration of Schwann cells. A description of how they determine that these cells are truly Schwann cells rather than OPCs or oligodendrocytes would be helpful.

Minor Compulsory Revisions

1. In the methods, there is description of the use of anti-NGFr, although I am not clear where they assessed this in their results.

2. Some details which may improve the reader’s interpretation of the data would be to include when the spinal column was obtained after death in Table 1. If a specimen was obtained 48 hours post death, then the results of the immunohistochemical studies may be influenced differently compared to a specimen obtained within 15 hours. A specimen obtained 48 hours post death may have already undergone necrotic degeneration as the authors note in their discussion which may influence the immunohistochemical and architectural results. Knowledge of when the specimens were obtained post death would allow the reader to better interpret the data.
3. Definition of some of the abbreviations used in the text might improve the reader’s understanding (e.g. OPCs, NF, MBP, NGFr).

Discretionary Revisions

1. The authors have published other immunohistochemical studies on likely the same sample group in other journals including this one. It might be helpful to the reader to have the authors acknowledge their work in the text and reference the other articles to help guide the reader to their other studies performed on this sample of spinal cord.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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