PEER-REVIEW REPORT 2

Name of journal: Neural Regeneration Research
Manuscript NO: NRR-D-18-00251
Title: Altered leukocyte gene expression after traumatic spinal cord injury: clinical implications
Reviewer's Name: Anup Dutt Sharma
Reviewer's country: USA
Date sent for review: 2018-05-01
Date reviewed: 2018-05-14
Review time: 13 Days

COMMENTS TO AUTHORS

Authors have more data which they should be looking at publishing either in the main manuscript section or as supplemental material. Authors have not provided all the data they have available and that data could be of great importance for other researchers in the field. That seems to be the biggest limitation of this manuscript. Otherwise, manuscript was well written and discusses result of a study which could be really important for the field of SCI related repair, regeneration and management of symptoms post injury with regards to infections.

Manuscript titled "Altered Leukocyte Gene Expression after Traumatic Spinal Cord Injury: clinical implications" is usually well written detailing the challenges associated with Traumatic spinal cord injury and how increased infection rates in SCI patients remains the leading cause of death and rehospitalization. Authors also talk about how a very limited amount of research is being done related to the molecular causes of immunological symptoms and only one previous clinical study has been done to look at these molecular changes after SCI. Authors then discuss the results of their own study and show an altered regulation in NK cell, B cells, and T cells genes. However, the information was provided in a very limited amount and just in two paragraphs. It would be great if authors can provide this information in terms of charts and tables. I highly encourage authors to add the information to increase the readability of the manuscript. Here are some suggestions/comments.

1. (Page 1: Line 15-16) Please include the life expectancy data for SCI patient's vs able-bodied persons, if available.
2. (Page 2: Line 7) the acronym CNS is not defined.
3. (Page 2: Line 54-58) Please provide a supplementary table mentioning the genes which were found to be different (1816 vs 2226 genes) and discuss why more genes were found to be differentially regulated with participants having SCI rostral to T5.
4. (Page 2: Line 54-58) Modular analysis needs to be explained a little more as this method was used to determine the altered regulation of genes.
5. (Page 3: Line 18) Please include a table/chart showing list of upregulated and downregulated genes.
6. (Page 3: Line 26) What other elevated genes besides JAK2 have FDA approved drugs? Also,

are those drugs used for managing SCI-related infections?

7. (Page 3: Line 44-45) Please discuss summary sentences in the order discussed in the paper.

8. (Page 3: Line 46-48) Seems out of place. Please provide more information.