Reviewer’s report

Title: Functional capacity of Natural Killer cells in HTLV-1 associated myelopathy/tropical spastic paraparesis (HAM/TSP) patients

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Reviewer: Jian Zheng

Reviewer's report:

In this manuscript, authors compared the phenotypic profiles of NK cells from HTLV-1 associated myelopathy/tropical spastic paraparesis (HAM/TSP) patients, asymptomatic HTLV-1-infected patients, and healthy controls. Based on the decreased NKp30 expression and increased perforin, granzyme B, CD107a and IFN-g, authors concluded that NK cell functions were modified in HTLV-1-infected patients, especially those suffering from HAM/TSP.

Although it is difficult to illustrate the roles of NK cells in HTLV-1 infection in patients, the manuscript could be improved by the following aspects:

1. providing absolute number and dynamics of NK cells in donors, especially HAM/TSP patients;

2. comparing direct cytotoxicity (death of target cells, such as K562) in addition to NK cell markers;

3. demonstrating the correlation of NK cell characteristics with virus load and other immune components (such as CD4 and CD8 number, phenotypes).

The following are some other concerns:

1. a table containing information of donors (age, gender, hospitality, et al) might be helpful;

2. flow plots of NK cell characteristics from all three groups (HAM/TSP, AS, CTR) need to be included in the manuscript.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
**Does the work include the necessary controls?**  
If not, please specify which controls are required in your comments to the authors.

**Yes**

**Are the conclusions drawn adequately supported by the data shown?**  
If not, please explain in your comments to the authors.

**No**

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

*I am able to assess the statistics*

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Please indicate the quality of language in the manuscript:

**Acceptable**

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