Reviewer’s report

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

Version: 1 Date: 07 Mar 2019

Reviewer: Abdolrahim Rezaee

Reviewer's report:

Editorial Office

BMC Infectious Diseases

https://bmcinfectdis.biomedcentral.

Review for: INFD-D-18-01174R1

I do apologies for the delayed review process. The authors of the study entitled "Functional capacity of Natural Killer cells in HTLV-1 associated myelopathy/tropical spastic paraparesis (HAM/TSP) patients, aimed to evaluate if there is a correlation between NK cell activities and HAM/TSP manifestations in context of HTLV-1 Proviral load. The HTLV-1 and its impacts on immune system deterioration in HAM/TSP and ontogenesis in ATLL are important for oncologists, immunologists and neurologist. The role of NK cells in immune surveillance in oncogenecity and immune-deterioration of HTLV-1 deserves great attention in research. Therefore, deep revision of this manuscript make it suitable for publication.

Please note that I am not a native English speaker and the English editor should pay more attention.

Major corrections:

1. Although, the number of patients involved in this study is small, however, it can be accepted for such study with rare. The main concern are: 1- The NK cells are a small portion of PBMCs and in such study it is better to relatively purified and tested for 2- When PBMCs were stored in liquid nitrogen, at the time of revival many cells then die. The question is whether there were enough NK cells survive to have a reliable study! Particularly in a study that deal with alive functional cells. The resolution of the Flows graphs are not enough to see if the number and the intensity of fluorescence are rational.
2. It is obvious that case control study needs newly diagnosed patients, in the manuscript it is not specify the inclusion and exclusion criteria to know if they were. This manuscript would benefit from a detailed flow chart of patient inclusion/exclusion.

3. The study suffers a good organization in abstract and results. There are some unnecessary statements which simply can changed to the more informative sentences.

4. Although, statistical analysis are very precise, some of the graphs do not make sense as the deviations are too high (Figs 2 and 3). Furthermore, in abstract and in the results the type of study and the type of samples were not specified.

5. A clinical and demographic table make the study more strong and necessary to put something like duration of the diseases, the spasticity and Urinary incontinence scores, underlying signs and symptoms and the correlations of the clinical and molecular finding should be included to see if NK cells finding had relations to the clinical outcomes.

6. There are many factual statements in the manuscript, that are not fact and should change to something like "seems, more likely or even in some statements, there are many opposite study. For example: line 19, 57, and more.

7. The Biomedical Ethical approval should be included.

8. There are too many subjective pronouns, particularly "We", please change to appropriate format.

Minor revisions

Abstract

1-The aim in the abstract is not clear and the sentence is not in right form.

2- The methods section is very ambiguous and had many un-necessary words.

3- Please include the full words for IQR abbreviation in the abstract.

Other sections

4. Line 149 instead of similar; is better to use "statistically matched".
5- The proviral load should be compared with the other endemic area like Japan, Africa and Asia (Iran) in discussion.

6- In some sentences, using particularly better than specifically, if applicable please note.

7- The result section should be reorganized in subsections.

8- Line 239 is ambiguous.

9- Discussion needs shortening.

10- Please include the limitations of the study.

11- Conclusion is not completely matched with the results.

12- There are some incomplete sentences without matching verbs.

Seyed Abdolrahim Rezaee
Associate Professor in Immunovirology
Immunology Research Center, Inflammation and Inflammatory Diseases Division
Faculty of Medicine, Mashhad University of Medical Sciences
Azadi-Square, Medical Campus, Zip code: 9177948564, Mashhad, Iran.
Tel.: +98 513 800 2377
Fax: +98 513 843 6626
Cell phone: +98 915 049 8626
E-mail: RezaeeR@mums.ac.ir

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.

Yes

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.

Quality of written English  
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests  
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons
CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal