Reviewer’s report

Title: West Nile Virus Encephalitis: Neurological Manifestations and Prospective Longitudinal Outcomes

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Reviewer: Sylvie Lecollinet

Reviewer’s report:

The manuscript by Hart J et al "West Nile virus encephalitis: Neurological manifestations and prospective longitudinal outcomes" is an interesting study on the clinical follow up (up to 90 days) of patients suffering from WNV encephalitis. The study suffers however from two major issues that should be addressed before publication (see major compulsory revisions)

Major Compulsory Revisions

1. This is notably difficult to assess the adequacy of the methodology: 3 groups of patients were enrolled and given possible therapeutics, then considered as a unique group in the current study given the fact that no statistical difference was found between the groups. The problem here arises from the fact that no paper has been published on the comparison of the 3 therapeutic regimens and no data allows us to ascertain that the results from the current study are correct. The authors should be encouraged to publish their other manuscript first.

2. Too few citations/references were given in the discussion section. The results do not seem to be compared and discussed to other studies in the field. The organization of the discussion section is not optimal: discuss the clinics (paragraphs 1, 2, 5, 3 death, 4 recovery), factors predicting the outcome (paragraphs 6), study limitations

Minor Essential Revisions

3. Abstract p3, lines 13-16: reconsider revision of the sentence "represent/signal", "appears to predispose"

4. Please use coherent figure in the text, abstract and tables

Abstract, line 19: "present in 9 at onset and 4 at study conclusion"

Abstract, line 20: "11 continued... tremor"

5. Introduction, p5, line 6: if referring to case and death peaks, please cite the number of deaths in 2012 (286) or indicate the number of deaths in 2003

6. Introduction, p5, line 9: 2012 figures are no more preliminary... and the introduction should be updated

7. Introduction, p5, lines 10-11: if 80% individuals suffer from asymptomatic infection, there is no room for 20-30% mild infections. Please modify.

8. Methods p 7 line 5: please cite the acronym (IVIG) here for easy reading of
9. The Methodology section could be shortened. It seems not clear if WNV encephalitis patients only were enrolled or if patients suffering from meningitis or polio-like syndrome were also considered for this study... If every patients suffering from WNV neuroinvasive disease were considered, the authors are invited to modify their title and abstract.

10. Results, p13, lines 6-7: figures are not the same as the ones in table 1. Please correct.

11. Results, p13, line 12-13: eleven patients ended their participation, but do not correspond to a total of 7 deaths + 3 other reasons.

12. Results section: the fact that 4 patients were normal at the beginning of the study is annoying. Did the corresponding patients really suffer from WNV neuroinvasive disease? Or should they be withdrawn from analysis?

13. Figures: Tables 3 and 4 could be simplified and gathered (also with table 2?). A figure on the correlation between variables (latest section of the result) would be valuable.

Discretionary Revisions

14. Methods, p10, line 11: "determine the patient's level of"

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