Reviewer’s report

Title: Prognosis of West Nile Virus Associated Acute Flaccid Paralysis: A Case Series

Version: 2 Date: 20 March 2011

Reviewer: nancy H miller

Which of the following following best describes what type of case report this is?: Presentations, diagnoses and/or management of new and emerging diseases

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: No

Comments to authors:

General comments
This is an important case series, as little is known about the prognosis of patients with acute flaccid paralysis due to West Nile Virus infection. The authors propose to improve the understanding of the natural history of this disease (p. 3, paragraph 2). This case series may not reflect the natural history of this disease, which presumes no treatment. There is no information presented on the physical (eg, PT and OT) and psychological (eg, psychotherapy, antidepressants) rehabilitative treatments of these patients, which may have greatly influenced the patient outcomes reported.

Of the cohort of 7 patients, 2 should not be included in the analysis. Patient #6
has Parkinson's disease, which has its own effect on motor and cognitive abilities and which will therefore confound any PCS/MCS scales. This is most evident when observing the trend of PCS and MCS scores (see table below), which for this patient was -33 for PCS (baseline 57 - 2 year f/u 24 = 33) and +38 for MCS (baseline 12 - 2 year f/u 50 = 38), the largest trend changes for any patient in the series. Additionally, the baseline MCS of 12 is so far from mean (>3 SD), emphasizing the likelihood that this patient is an outlier. Patient #3 should also not be included in the analysis, as there is no trend to follow, with only 1 PCS/MCS score during the study time.

It appears the authors added the scores at baseline and last follow up (pt #3 with only 1 score; all other pts with last follow up at 6 months (3), 1 year (2, one of these being pt #3) and 2 years (2, one of these 2 being pt #6) to achieve the mean PCS and mean MCS score. A trend analysis of the change in score over time provides more meaningful information, and could be examined similarly to the table below.

<table>
<thead>
<tr>
<th>PCS</th>
<th>MCS</th>
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<tbody>
<tr>
<td>Patient #1</td>
<td>+28</td>
</tr>
<tr>
<td>Patient #2</td>
<td>+31</td>
</tr>
<tr>
<td>Patient #3</td>
<td>-</td>
</tr>
<tr>
<td>Patient #4</td>
<td>-3</td>
</tr>
<tr>
<td>Patient #5</td>
<td>+8</td>
</tr>
<tr>
<td>Patient #6</td>
<td>-33</td>
</tr>
<tr>
<td>Patient #7</td>
<td>+10</td>
</tr>
</tbody>
</table>

Viewing this trend analysis over time, it is apparent there is sometime very different about patients 1 and 2; perhaps only UE involvement has a better prognosis, perhaps these patients had different rehabilitative therapies, perhaps less impairment at onset=improved scores over time? It is also clear patient 6 is quite different from the other patients, and the Parkinson's disease is very suspect as a confounder.

Including only patients 1,2,4,5,7 and only the follow up times that included all patients (baseline, 3 months, 6 months) yields the following table of change over time for mean PCS/MCS.

<table>
<thead>
<tr>
<th>Baseline 3 months 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
</tr>
<tr>
<td>MCS</td>
</tr>
</tbody>
</table>

This trend analysis yields a baseline PCS of 30 (vs the author's mean presentation PCS score of 35), and a dramatically increased mean PCS of 46 at end of follow up of 6 months (vs the author's mean PCS score at variable follow up of 39) and continued normalization of the MCS.
Revisions necessary for publication
1. revise analysis to trend analysis over time
2. remove patients 3 and 6 from this analysis and state why
3. include physical and psychological rehabilitative therapies patients underwent

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I declare that I have no competing interests.