Reviewer's report

Title: Anti-NMDA receptor antibody and psychiatric manifestations

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Reviewer: Mehdi Tafti

Reviewer's report:

Major:
Written English

Minor Essential:
The manuscript by Tsutsui et al., reports on the identification of anti-NMDA-receptor antibody in 10 patients. The findings are very interesting and important and extend recent work to Schizophrenia and Narcolepsy with psychotic features. Unfortunately, the writing and the organization of the manuscript are very poor and need thorough revision.

The title is not informative and a title such as “Anti-NMDA-receptor antibody detected in encephalitis, schizophrenia and narcolepsy with psychotic features” would be much more informative.

How the paper is written, it's not clear if some of the reported cases have already been published or if all are new ones. This important point should be clarified.

The abstract and introduction are almost identical! Therefore the introduction must be rewritten. The overall organization is very difficult to follow. The authors should make reference to their table in a short paragraph then report the typical cases followed by a summary of common/differential symptoms and features of all 10 cases. I have also doubts that the classification with 3 groups as well as individuals (A1-B-C1, etc) is really appropriate. Maybe a numbering from 1 to 10 is enough and in the text the authors can make reference to encephalitis (cases 1-3) schizophrenia (cases 4-6), and narcolepsy (cases 7-10). The term sleep disorder is definitely not appropriate and narcolepsy with cataplexy and psychotic features (maybe abbreviated in NCP) would be much better.

Overall the paper should be proofed by a native English speaking scientist. I just mention a few:

Abstract: under methods number of patients in each group is missing (except for schizophrenia). 3d line …groups for comparison (delete the). Under conclusion …we found 7 Japanese cases with anti-NMDA-receptor antibody associated with various… Last sentence: Our results call for further discussion …

Throughout the manuscript either use antibody or antibodies. My understanding is that antibody is more appropriate since not many different antibodies have been detected.

Introduction: …causative role of…First sentence needs to be referenced.
In addition to 3 conventional cases (maybe typical is better than conventional), ...we recently diagnosed and not experienced.

Methods: ...into 3 clinical groups for comparison. Five narcolepsy with severe...were also included. End of the paragraph: measured for comparison with group-B. Antibody detection were performed by Dr. Dalmau’s lab in cases 1, 2, 4, and in Dr. Tanaka (?) for the others.

Results: ...is presented in Table 1. Brain SPECT showed decrease blood flux in... 3d paragraph: Examination for tumors was not performed...6th paragraph: ...were negative for anti-NMDAR antibody.

Under Group B: Thus patient has subsequently presented severe psychosis......with successful outcome. He suffered from EDS at high school...later...mean sleep latency was shortened to 2 min. Later...Finally...with successful outcome. Later...NMDAR antibody was detected in both serum and CSF of this patient. Last paragraph: ...and found 2 antibody positive patients...

Under Group C: first paragraph:...mECT was effective in 3 cases. A 26 y old female patient had normal...Later: ...junior high school. The next sentence starting with Although is not clear at all. Next sentence: She was diagnosed with depression and received X (name the treatment) treatment in a clinic. Next sentence: a hypomanic episode at age 17. 3d paragraph: the patient had insomnia and hypobulia at age 22. Next sentence...so she was transferred to a closed ward. End of paragraph: anti-psychotics based on schizophrenia diagnosis. Next paragraph:...by abdominal ultrasonography. Next paragraph: She was positive for anti-NMDAR antibody. Next paragraph:...schizophrenic and resistance to pharmacological treatments...

Under Discussion: are resistant to pharmacological...

Under NMDAR and psychiatric symptoms, end of the 2d paragraph: ...fatal condition, if the diagnosis is made rapidly, effective treatments are available. Next paragraph: ...most favorable outcome occurs...second sentence: Also, a good clinical outcome was reported...last paragraph: ...of consciousness.

Under The prevalence of...2d paragraph: ...examined cases that fulfilled....

Last sentence under Atypical psychosis:...in these psychotic patients.

Under mECT effects, 2d paragraph: ...full recovery was only obtained after...5th paragraph: ...redifine this new class of psychotic disorders positive for anti-NMDAR antibody.later: ...symptoms of psychosis and psychotic patients who are drug resistant but respond relatively well to mECT. Next paragraph: We did not measure the CSF antibody in the majority of our cases and future prospective studies should include paired serum-CSF antibody measures.

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Not suitable for publication unless extensively edited

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