Reviewer's report

Title: Neuromyelitis optica spectrum disorders with non-organ-specific autoimmune diseases and with organ-specific autoimmune diseases

Version: 2

Date: 28 May 2014

Reviewer: Nandhagopal Ramachandiran

Reviewer's report:

Thanks for asking me to review this paper that I read with interest.

The strength of this study is the reasonably good number of patients with NMOSD (NMO spectrum disorders) from a single centre. However, the paper does not add much to the body of existing knowledge. In particular, the work up for organ-specific autoimmune diseases is quite limited (mostly to autoimmune thyroiditis as gleaned from the table). The paper would benefit from major revision. I have the following comments to offer:

Major comments

1) Could the authors clarify what specific autoimmune panel they tested/included for organ-specific autoimmunity? Although autoimmune myasthenia gravis has been mentioned as an organ-specific autoimmune disease in the introduction, there is no mention of anti-AChR or MUSK antibodies in the Table. In addition, could they clarify whether they tested the specific antibodies for autoimmune diabetes, autoimmune gastritis, autoimmune hepatitis etc. Did all patients undergo these tests before categorizing them into the two categories of non-organ specific and organ specific autoimmune diseases? For instance, patients with non-organ specific autoimmune disease could have co-existing organ-specific autoimmune diseases: for instance, autoimmune myasthenia gravis can co-exist with SLE etc.

2) Did the author compare the clinical features of NMOSD with or without autoimmune disease (non-organ specific and organ specific diseases put together)?

3) Did the authors carefully look for transient hyper-CKemia (Muscle Nerve. 2014. doi: 10.1002/mus.24298 and Neurology 2010;74(19):1543-5) and hyponatremia between NMOSD with or without autoimmune disease?

4) It might be better to recast the study as comparison of NMOSD with or without other autoimmunity. Since the authors have a higher number of NMOSD cases (around 170) from a single centre, this comparison might have better clinical relevance or could yield interesting or useful findings than the present format of comparing NMOSD with non-organ specific vs. organ specific autoimmunity. Please note that the previous paper on this topic was multicentre- based (JAMA Neurol. 2008;65(1):78-83)

5) How many (or percentage) of the NMOSD cases had co-existing
auto-antibodies without clinical autoimmune disease?

6) Since the titer of auto-antibody panel such as ANA was not known, could there be a technical problem in categorizing patients? For instance, incidental low titre of ANA might be classified as non-organ specific autoimmunity.

Minor comments

1) In Page 3, line 2, under introduction, NMO is described as an idiopathic condition. Since NMO is established as an autoimmune disease, this should be changed.

2) In page 5, line 65, under statistical analysis, instead of median plus or minus range, the format has to be median (range).

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

Nonw