Reviewer’s report

Title: Treatment of Multiple System Atrophy Using Intravenous Immunoglobulin.

Version: 2 Date: 9 July 2012

Reviewer: John Duda

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In this report, entitled, ‘Treatment of Multiple System Atrophy Using Intravenous Immunoglobulin’, the authors present the results of a small pilot study examining the tolerability of IVIG in patients with suspected MSA. It is a highly innovative study that revealed promising results, not only in tolerability, but also in efficacy. There are a few concerns that should be addressed to fully appreciate the significance of these findings:

Major Compulsory Revisions

1) Regarding the MRI data, I am not certain that comparisons between such a small cohort and control subjects adds much to the study. Perhaps the pre and post-treatment comparisons are useful to assure that there were no ill effects of the IVIG, but I believe that a written summary of the results would be sufficient. In addition, given the number of anatomical areas examined, some sort of correction for multiple comparisons, such as a Bonferroni correction, should be conducted on these data.

2) One very curious finding, given the rationale for conducting the study, was the absence of a change in C-reactive protein levels with treatment. If the effect of IVIG is via modulation of inflammatory responses, shouldn’t any beneficial effect have been accompanied by a decrease in C-reactive protein levels? This should be discussed.

3) In the introduction, the statement that, ‘It is believed that alpha-synuclein aggregates play a major role in MSA since they are present in the early stages.’ should be supported by references. I am not aware of any studies of incidental MSA or animal models that definitively support this statement.

4) Table 3 can probably just be summarized in text. This table is not that helpful, and certainly the summary statistics included at the bottom of the table are not very meaningful. Also, please comment if any pretreatments were tried for any of these patients who had BP spikes with every treatment.

Level of interest: An article whose findings are important to those with closely related research interests

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