Reviewer's report

Title: Evaluation of neurological changes in secondary progressive multiple sclerosis patients treated with immune modulator MIS416: Results from a Feasibility Study

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Reviewer: Lawrence Mbuagbaw

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The investigators report the results of single arm open label phase 2A trial of MIS416 on performance related and patient reported outcomes in patients with multiple sclerosis. The study is well conducted and well reported. I have the following comments:

The background barely touches on the disease itself but focuses more on therapies and outcomes. It is customary to let the reader know why it is important to study this topic.

I would suggest revising the last sentence on the background. Replace "support" with "investigate".

It is stated that the study was conducted in New Zealand, but the context and setting of the trial are not reported in sufficient detail. Where were the patients recruited from? What were the exclusion/inclusion criteria?

Was there a target sample size? What was the sampling strategy? It would have been easy to explain a small sample size if the background indicated how rare the condition is.

Please provide more details on how the continuous data from multiple measures was collapsed into a binary variable. Did a patient have to be a responder on all measures to be classified as responder overall?

Under analysis of immunological parameters the max recorder response across all time points were analysed. What are these time-points?

Under the analysis of immune biomarkers it is stated that patients were grouped into high, medium or low responder groups. How were these categories determined? This appears in the results, but the approach used should be described in them methods section. Were these rankings planned a-priori or determined post-hoc?
Please report the genders of the participants.

In this section "Concordance of responder ranking with MIS416 pharmacodynamic immune response" please note that it is not usual to have background/discussion material in the results section. This section is reserved for the findings from this particular study and not others. You can use the methods section to provide context for your results.

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