Reviewer’s report

Title: Clinical correlates of grey matter pathology in multiple sclerosis.

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Reviewer: Jeroen Geurts

Reviewer's report:

The review submitted by Horakova and colleagues describes the clinical relevance of GM pathology in MS. Their aim is to provide an overview of current information regarding GM damage and its relation to the clinical status of the patient.

The review is adequate though lengthy. I would advise the authors to shorten the manuscript by e.g. omitting some of the single-ref statements they make (especially under the section "physical disability"). Please also make sure that a native English speaker review the manuscript and correct misspelled terms (such as 'magnetic transfer ratio', etc.)

Under 'Clinical correlates' it would perhaps be better to start with the physical disability section, followed by the cognitive impairment section.

I wouldn’t say that restless legs syndrome is a "common comorbidity" in MS.

Benign MS may have more efficient functional compensation properties, but also has less damage (e.g. to the cortex, see Padova results). So, it will be difficult to say which of the processes, if any, or perhaps the combination of both, determines the benign disease course in these patients.

"It can be speculated that even better prognostic value...regional GM atrophy": this is not self-evident. Regional GM measures could provide more specificity in terms of predicting certain functions, but may not be overall more sensitive in predicting cognitive decline.

Conclusion: "Pathology..pathogenesis of MS." What does the pathology have to do with pathogenesis according to the authors? I would say its rather the other way around.

They could conclude on the relationship between atrophy and cortical lesions. The conclusion now is rather vague.

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

Quality of written English: Needs some language corrections before being published
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

none of relevance to declare.