Reviewer’s report

Title: Clinical features and dysfunctions of iron metabolism in Parkinson disease patients with hyper echogenicity in substantia nigra: a cross-sectional study

Version: 0 Date: 31 Jul 2017

Reviewer: Chien-Tai Hong

Reviewer's report:

For the whole manuscript: English-editing is required.

Introduction:

1. In the first paragraph, a citation is required for this statement: Berg et al found that in the premotor period, treatment before the significant neural degeneration might protect neurons against rapid deterioration, thereby delaying the disease progression.
2. In the second paragraph, the following statement "Transcranial ultrasound (TCS), a novel and non-invasive neuroimaging technique" should be mended. TCS is not novel at all.

Methods:

1. Is this study a retrospective study? Had patients signed the informed consent or the informed consent were waived? Had the study approved by local review board?
2. In the "Detection of echogenicity and hyperechoic area of SN by TCS" section, the authors make the following statement: One experienced ultrasound practitioner who had no idea about clinical diagnosis was responsible for detecting SN echogenicity. Since the present study did not include control, the practitioner must know all subjects were PD patients. The statement should be mended.
3. The authors mentioned that "In some patients, there was only one temporal window available for detection of echogenicity of SN". For those patients, whether the assessed side contralateral to prominent involved side of limbs is important.
4. How many percentage of patients were excluded due to poor bilateral temporal windows should be mentioned.

Results

1. The authors need to address the reasons of alteration of study case number ( in methods: 374 PD patients were recruited, in table 1, 122 subjects were analyzed, in table 2, total 119 patients were analyzed)
2. While comparing the NMS symptoms between two groups, the authors should adjust several factors, especially age and disease duration. Or otherwise, the results were very biased.
3. For the table, it would be nice to make all the presentation universal (some parameter presented as mean±SD but some were median and quartile, which introduced confusion)

4. In table 1, the results of H/Y stage and UPDRS were exactly the same? It is the case or typo?

Discussion

1. The present study identified the association between age, gender, disease duration with PDSN+, however, in the discussion, some of the statements indicated a causal relationship which was not solid.

2. The association between NMS with PNSD+ need to assessed by adjusting other factors.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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