Reviewer's report

Title: Malnutrition-inflammation is a risk factor for cerebral small vessel diseases and cognitive decline in peritoneal dialysis patients.

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Reviewer: Che-Yi Chou

Reviewer's report:

The authors accessed the association of malnutrition-inflammation and cerebral small vessel diseases (CSVD)/cognitive impairment in 72 chronic peritoneal dialysis (PD) patients of one hospital. The CSVD was determined using brain MRI images and the cognitive function was evaluated using the 44 Chinese version of the MMSE and MoCA. They found that nPCR was an independent risk factor for lacunar infarcts and impaired cognitive function. The presence of lacunar infarct was an independent risk factor for cognitive function decline. I have some suggestion about the study design.

The dependent factors were CSVD, cognitive impairment and the independent factors were nPCR and CRP based on the title. The CSVD was determined using MRI and the cognitive impairment was determined using MMSE and MoCA. Ideally, the analysis should have the association between nPCR and CSVD/cognitive impairment, CRP and CSVD/cognitive impairment, followed by the interaction between nPCR and CRP would be critical in the analysis. However, I can not see this through Table 2-4.

Table 4 showed the association between CSVD and cognitive function. The results may not be surprised because they are both dependent factors. The brain MRI findings lacunar infarcts and WMHs are correlated to cognitive impairment.

The prevalence of cognitive impairment "25% and 86.8%" are very different according to the results of MMSE and MoCA tests. As the aim of the study is to determine the association of malnutrition-inflammation and cerebral small vessel diseases (CSVD)/cognitive impairment. Patients with both CSVD and cognitive impairment should be considered as event cases and the analysis can be performed accordingly. The authors may also consider to use the findings of MMSE as the major outcome measurement and MRI findings as the lab findings (independent variable) in the analysis.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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?
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No

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I am able to assess the statistics

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