Reviewer's report

Title: Impact of diabetes on sarcopenia and mortality in patients undergoing hemodialysis

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Reviewer: Masanori Abe

Reviewer's report:

The authors investigated the prevalence of sarcopenia in Japanese hemodialysis patients. Furthermore, the authors concluded that the presence of diabetes was an independent predictor of sarcopenia and an independent predictor of all-cause mortality in the Japanese hemodialysis patients. This is very important issue because the dialysis patients with sarcopenia are increasing in Japan, and it has well known that he patients with sarcopenia have poor outcome. However, there are several faults and limitations in the present study.

Background

1. The prevalence of sarcopenia may be different by age. The authors should describe the mean age of Ref No. 5, 6, and 7.

2. The prevalence of sarcopenia was significantly higher in patients with diabetes than healthy subjects [10]. Is there any report in patients with chronic kidney disease and end-stage kidney disease?

Methods

1. Exclusion criteria: The patients who had previous history of amputation should be excluded.

2. Diagnosis of sarcopenia: When did you measure the handgrip strength and skeletal mass index?

3. The authors described that "the cohort was monitored until the end of December 2005", and "the median follow-up duration was 90 months". It means that the present study investigated the patients who were treated with hemodialysis in 1996-2000?
4. The duration of the present study should be described, i.e., "Observational period of this study was from January 1997 to December 2005".

5. Kt/V, nPCR, and history of cardiovascular disease should be included as independent variables in Cox regression multivariable analysis.

Results

1. Important information are lacking in the present study. In common, diet intake, normalized protein catabolic rate, dialysis efficiency, phosphate, and history of cardiovascular disease may contribute to the prevalence of sarcopenia.

2. The authors should describe nPCR, serum UN, nPCR, Kt/V, cardiovascular comorbidity rate, and dialysate concentrations of calcium and glucose.

3. Results section and Fig 1: the number of the patients should be described. 77 patients were transferred to other hospitals. This number is very high. Why did many patients move from your hospital?

4. Table 3: The authors described "Independent association between diabetes and all-cause mortality. This title should be revised.

5. The causes of death should be given a detailed description.

5. I would like to know the information about the distribution of age in the sarcopenia group.
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

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