Reviewer’s report

Title: Trajectories of physical function prior to death and brain neuropathology in a community-based cohort: the ACT study

Version: 0 Date: 17 Jun 2017

Reviewer: Aurel Popa-Wagner

Reviewer's report:

Accumulating evidence shows that brain aging and disease contribute to physical function declines in older people. In this prospective study the authors investigated mechanisms linking cognitive and physical functioning in older adults. They report that cystic infarcts and microinfarcts, but not neuropathology findings of Alzheimer's disease, were related to physical performance levels five years before death. No pathology findings were associated with rates of physical performance decline.

They conclude that physical function levels in the years prior to death may be affected by vascular brain pathologies. This is a well organized study that will provide, with increasing time, useful data on mechanisms linking cognitive and physical functioning in older adults. Strengths of the study include the evaluation of a population-based autopsy cohort with well characterized health status, health behaviors, physical function and cognitive status over time, as well as state-of-the-art methods for ascertaining brain neuropathology.

Currently, this study was limited by the relatively small sample size of autopsied ACT decedents.

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?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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

Acceptable

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