Reviewer’s report

Title: Ceramides predict verbal memory performance in coronary artery disease patients undertaking exercise: a prospective cohort pilot study

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Reviewer: Pieter Jelle Visser

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This is an interesting study on ceramides and cognitive decline. In this highly selected population (subjects with myocardial infarction who underwent physical exercise) high levels of ceramides were associated with less decline. The study is clearly described, although the authors may clarify some issues.

Minor Essential Revisions

1. How does the ceramide concentration at baseline compare to other studies?
2. How does the Memory z-score at baseline (0.06, so above average) compare to other studies in CAD?
3. It cannot taken for granted that improvement in memory is due to the physical exercise. The cognitive improvement could also be explained by training effects. Improvement has been seen in placebo arms of MCI trials and short-term AD-trials (e.g. Scheltens et al Journal of Alzheimer’s Disease 31 (2012) 225–236)
4. Any claim for the use of ceramides as ‘prognostic marker’ for cognitive risk in CAD is quite premature because the sample size was small and overlap considerable. The finding could be better interpreted as that increased ceramide levels are associated with (relatively) worse cognitive outcomes, also as seen in other studies in other type of patients.
5. Table 1: replace ‘association with’ by ‘p-value’.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interest