Reviewer's report

Title: Saliva levels of Abeta1-42 as potential biomarker of Alzheimer's disease: a pilot study

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Reviewer: Anil K. Nair

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Authors: Felix F Bermejo-Pareja, Desiree D Antequera, Teo T Vargas, Jose Antonio JA Molina and Eva E Carro

Title: Saliva levels of Abeta1-42 as potential biomarker of Alzheimer's disease: a pilot study

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Reviewer: Dr Anil K. Nair, Chief of Neurology, Quincy Medical Center / Boston University (nair.anil@gmail.com or an@bu.edu)

Summary:

The authors compared salivary Abeta (ELISA) in 76 AD, 51 PD subjects to 56 elderly controls. They did not find a significant difference due to possibly inadequate sample size. Only the mild AD subset showed significant difference in Ab42 levels from controls.

Minor Essential Revisions

1. Results , Page 8

"Overall, saliva A#42 levels revealed a non significant tendency to increase with age." suggest changing to "Overall saliva A#42 levels were not significantly higher with age".

2. I cannot understand the logical reason for using only 2 subgroups 60-65 vs 66-70. What is special about these age ranges that the authors decided to analyze the data. I would suggest deleting that statement: "However, comparison of AD patients aged 60-65 with those aged 66-70 showed highly significant elevation in saliva A#42 levels (1.64 ± 0.44 pg/ml versus 6.46 ± 3.43 pg/ml, p=0.016)". (Page 8 and 9)

3. Table 3: Please add numbers on mean ab42, ab40 and number for entire AD group (in order to show not significantly different and make the table comparable to PD and control subjects.)

4. This will also change the conclusion to reflect the summary. I would suggest: "There was no significant differences in Ab42 levels between AD, PD and controls overall. However, our findings show that saliva concentration of A#42 differs between MILD AD and nondemented control subjects, and that this is a specific
characteristic of AD, being absent in PD."

Discretionary Revisions:

1. Abstract: Please correct grammar in statement: "In addition, there were not differences in salivary concentration of A\#42 between patients with PD and healthy controls."

2. Page 4: Suggest deleting "potentially dangerous" for describing LP. The LP side effects are minimal, 5% headaches with new needles, also is much more widely accepted with nearly 70% of our patients opting to have one.

3. Eliminate the outliers (4 in mild AD and 1 in moderate AD subjects) and re-run the analysis.

4. Increase the sample size.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests