Reviewer's report

Title: Clinical and Postmortem Measures of Cardiac Pathology in Subjects with Alzheimer's Disease

Version: 1 Date: 2 November 2010

Reviewer: Giovanni Zuliani

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In the present study Beach et al. evaluated some clinical and anatomic measures of cardiac disease in a sample of 57 older individuals either affected by Alzheimer's disease (n=35) or non-demented controls (n=22).

They found that, compared with controls, AD patients had significantly fewer cardiovascular conditions, heart failure, coronary heart disease, heart weight, and lower body mass index.

They concluded that, in agreement with previous reports, AD patients might be characterized by lower prevalence of cardiovascular risk factors and coronary heart disease, probably as a consequence of weight loss.

COMMENTS

The study is interesting and the methodology is correct. The sample is small but sufficient for this kind of studies.

- I would include the number of the subjects in the Abstract
- I would change AVD in ATH (for atherosclerosis) in the text; AVD might be confusing
- In line with current international literature, I would use CHD (for coronary heart disease) or CAD (for coronary artery disease) in the text
- Table 1: I would underline the 3 times increase in apo E4 allele in AD (42%) compared with controls (13%); it is obvious to me that the difference would be highly significant in a larger sample
- Table 2: again, the clinical prevalence of hypertension, carotid artery disease, and peripheral artery disease is much lower in AD; this is interesting despite being not significant. The effect of AD on blood pression is well known (see the papers by I. Skoog et al.)
- Table 3: is not necessary: the data could be reported in the text; again, the reduction of MI is really impressive (29% vs 50%) despite being not significant
- Table 4: I strongly suggest to compare AD with controls, and not males with females; I would change the table by comparing AD males with control males, and AD females with control females.
- Figure 1: if possible, I suggest to compare some digital images coming from AD patients (e.g. in the left side of the figure) with some coming from controls (e.g. in
the right side of the figure).

- I would appreciate some comments AD (e.g. inflammation, CNS alterations, frailty syndrome, etc.)

Level of interest: the article might be important in its field

Quality of written English: OK

Statistical review: Correct

**Declaration of competing interests:**

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'I declare that I have no competing interests'