Reviewer’s report

Title: Carotid intima-media thickness is associated with cognitive deficiency in hypertensive patients with elevated central systolic blood pressure

Version: 2 Date: 5 May 2012

Reviewer: Eva Gerdts

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The authors have provided more details to methods and included more than 80 references. However, key questions are inadequately addressed, as detailed below.

Major Compulsory Revisions

1. Control group. it is a major difference between subjects with elevated clinic blood pressure and normal ambulatory blood pressure and those who have both normal clinic and ambulatory blood pressure. The former group was included in this manuscript, and cannot be referred to as normotensive controls.

2. It is still not confirmed if this study was retrospective or prospective. Details on recruitment is also still lacking, in particular if this was consecutive, during a certain time period etc.

3. Correlates of cognitive impairment measured as MMSE score now included using Pearson's correlation coefficients. However the coefficients are not presented in the results. The strength can of course not be evaluated from p-values alone.

4. Multivariate analysis with stepwise backward method is now included. However, results are not presented adequately for the models used. Also, the method used will only identify the STRONGEST covariate of cognitive impairment, and not identify different covariates of determine if the single covariate was independent of others in its association with cognitive impairment. Thus, the methodology chosen is inappropriate, and does not support the discussion made. Finally, when adding variables that are normally inter-related in the same model, like weight and BMI or many classes of cholesterol, then collinearity tools must be included to ascertain sound statistics. This was not used by the authors.

5. Description of how clinic blood pressure was measured is now partially included. However, it is still unknown how many measurements that were done, which apparatus that was used, the interval between measurements and how the clinical blood pressure was determined based on the measurements.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I have no conflicts of interest