Author's response to reviews

Title: The utility of Hopkins Verbal Learning Test (Chinese version) for screening dementia and mild cognitive impairment in Chinese population

Authors:

Jing Shi MD (shijing87@hotmail.com)
Jinzhou Tian MD,PhD (jztian@hotmail.com)
Mingqing Wei PhD (mingqingwei001@126.com)
Yingchun Miao PhD (miaoyingchun80@126.com)
Yongyan Wang MD (yongyanw@126.com)

Version: 2 Date: 16 September 2012

Author's response to reviews: see over
Cover letter

Thank you so much for your kind and patience correction.

Reviewer: Donald J Connor

Reviewer’s report:

Discretionary Revisions:

1) Would be helpful to clarify if “clinician’s interview” in criteria for aMCI you mean the MMSE (not an interview) or if there was a separate clinical interview.

Thanks a lot for your kind suggestion. The clinician's interview for the aMCI is a separate clinical interview. And we have revised it in the manuscript.

2) Total Recall Score and Total Score are easy to confuse. This was not used in the HVLT-R so I am not sure this was the original terminology in the earlier version. If possible, Total Learning Score and Total Score might be easier for the reader to discriminate.

Thanks a lot for your kind suggestion. We have checked the original terminology in the earlier edition, and it did not use the terminology of total recall score and total score. So considering your suggestion, we have used the terminology as Total Learning Score and Total Score.

3) Since MMSE was used in the definition of the groups, it might be interesting to look at a ratio (HVLT score / MMSE Score) to see if that is predictive of AD group vs other dementia.

We have calculated the ratio of HVLT score / MMSE Score, and found that there are significant difference between the NC, MCI, AD and all type of dementia. But there are no significant difference between the AD group and all type of dementia.

4) There was a spread of age and education in the healthy controls and aMCI that may make it difficult to use one cut point of the HVLT to differentiate them. The authors may want to look at separating their groups into two age (or education) ranges and see if different cut points in each
would improve group separation, but this should not be a requirement for publication.

**In this paper, considering the age can impact to the HVLT total learning score, so we separated the group by age, and further calculated the cutoff score between different age group.**

Minor Essential Revisions:

1) The “gold standard” for how your groups were determined should be stated clearly and in the abstract. As I understand it, it was based on CDR score.

**In this trial, the determined of different group was based on the mental state examination, neuropsychological assessment, laboratory results and neuro-image. The diagnosis algorithm (Figure 1) was also added into the manuscript.**

2) Needs reference for CDR (page 5).

**Thanks for your suggestion, and we have revised it in the manuscript.**

3) Definition of aMCI group has typo on criteria 3 (numbered as “2”).

**Thanks for your suggestion, and we have revised it in the manuscript.**

4) Definition for dementia lists “neuropsychological assessments (under criteria #1 although it does not have a #1 listed – typo?), but does not say what they are. If it is meant to be the MMSE, be aware this is not a neuropsychological instrument, it is a mental status screening instrument.

**In this trial, all patients received a complete neuropsychological assessments, which including the Hachinski Ischemia scale, clock drawing test, an Instrumental Activities of Daily Living, Paragraph recall scale et al). All participants received a routine clinical assessment, including detailed history, mental state examination (Mini-mental state...**
examination), neurological examination, laboratory results and neuro-image. So in this paper, the neuropsychological assessments did not including the MMSE.

5) Section on page 6 beginning “Every participants were underwent” should be moved to beginning of methods.

Thanks for your patience, considering your suggestion, we have moved this section to the beginning of methods.

6) The paragraph on page 7 beginning “The ROC curves were produced by plotting the sensitivity” seems redundant as was stated above.

Thanks for your suggestion, we have revised this paragraph in the revised manuscript.

7) Under discussion, a reference is needed for “This study showed that we can obtain the best balance between sensitivity and specificity for detect the NC from AD and all type dementia with the HVLT total recall cutoff score 15.5. Other study also demonstrate this results. But much lower than the 18/19 cutoff score obtained by other study with sensitivity 0.96 and specificity 0.80.”

Thanks for your suggestion, we have added the reference in the manuscript.

8) Please include in discussion a consideration of the dementia cut points in light of the severity of some of your subjects. In this case specificity may be more important than sensitivity when including subjects with severe dementia, who would not be mistaken for a control by any clinician (e.g. most with an MMSE of 10 will be self-evident).

Thanks for your suggestion, we have added the discussion in the manuscript.

Major Compulsory Revisions:

1) All “p<” are 0.000. They should end in a number (e.g. p < 0.001). I am not sure if these were
The “p<”are 0.000, it is the significant finding, and we have showed the statistical result in details in the manuscript.

2) Need to clarify what is the group classification if CDR = 0.5 but memory scale =0.

In this trial, we only included the aMCI participants, so the Clinical Dementia Rating (CDR) score should be 0.5, and the memory item score should be 0.5. Participants with CDR = 0.5 but memory scale =0 were excluded.

3) Exclusion criteria lists “depression or psychosis of juvenile onset”. What if there was onset of schizophrenia in their 30's? What about significant depression occurring a decade prior to examination? It is also unclear if this exclusion criteria is for all groups or just aMCI.

Participants with any major psychiatric disorder currently were excluded, (e.g., DSM-IV-defined psychosis, major depression, bipolar disorder). And the participants with psychosis of juvenile onset or depression occurring a decade prior to examination were allowed. And the exclusion criteria was used to all groups of participants including normal cognition group,aMCI group and dementia group.

4) For definition of dementia, how is the requirement for “2 or more cognitive domains” determined (page 6)? Is it based on CDR domains, clinical interview, MMSE, etc?

In the definition of dementia, we made the diagnosis based on the MMSE, and the Paragraph recall scale, the clock drawing test, when people showed impairment in any two or more cognitive domains was considered cognitive impairment.

5) “Completely neuropsychological assessment” is mentioned on page 6 but it is unclear what tests were used and what these results were used for. If not listed, need to refer to previous work where they were listed in detail.

The complete neuropsychological assessments, which including the the
Hachinski Ischemia scale, clock drawing test, an Instrumental Activities of Daily Living: Paragraph recall scale and clinical dementia rating scale et al).

6) The word “Discrimination” appears in the results section without being defined prior. Is it meant to mean the same as the Recognition score described previously? This seems to vary throughout the paper.

The word “Discrimination” appears in the results section meant the same as the recognition score as described previously, and we have revised in the manuscript.

7) If MMSE score was used to define the groups, you can not use it in the results section. By definition it has to be different between groups.

Considering the MMSE score was used to define the groups, so we did not use it in the results section, and we have deleted the section of the correlation between the MMSE and HVLT total score.