Associate Editor Comments to Author:  
1. Please clarify this sentence (page 4, methods, study population): "Other the ones declined, participants underwent extensive cognitive testing, lumbar puncture for CSF collection (Harrington et al., 2013) and MR imaging."

Sorry for the confusion. We have revised the sentence to be:

“All participants underwent MR imaging and cognitive testing but only 47 consented to lumbar puncture for CSF collection (Harrington et al., 2013).” (pg.4)

2. Similarly, the methods state 56 participants were recruited.  For table 1, it states that only 47 participants completed lumbar puncture.  The abstract and limitations both states only 30 participants completed the study.  Please clarify how many were recruited, how many underwent cognitive testing/MRI, and how many also agreed to lumbar puncture.  Given the breakdown of CH vs MCI, I suggest also defining how many in each group agreed to the lumbar puncture.

Thank you. We had overlooked the edits to the abstract and limitation sections. We have revised this in the abstract to:

“A total of 56 non-demented participants (68-94y) were recruited and gave informed consent. All of them went through MR imaging on a GE 1.5T scanner but only 47 underwent lumbar puncture for CSF analysis.”

We made a note in the Methods section to indicate the participants who declined lumbar puncher for CSF analysis as shown in comment #1.

We also correct the limitation section dealing with sample size:

“There are several limitations to this study. First, we only have a group of 56 non-demented subjects.” (pg. 8)

We added the following to the results section: Among participants with a brain MRI, there were 39 CH and 17. In the subset with lumbar puncture for CSF analysis there were 34 CH and 13 MCI. The ratio for CH and MCI was not significantly different between those with MRI only and those with MRI and CSF (chi square p=.8).

3. What was the neuropsychological battery used?  Please provide additional information on this and scores as appropriate.

Sorry for the confusion on the Cognitive passement. We modified this section to add additional information:

“Cognitive classification used the following criteria: study participants were included if they had no or minimal cognitive impairment after medical and neuropsychological assessment, using the Uniform Data Set-3 criteria of the National Alzheimer’s Coordinating Center after consensus clinical conference (<https://www.alz.washington.edu/WEB/npsych_means.html>). The CH group were asymptomatic with Clinical Dementia Rating (CDR) of zero and neuropsychological measurements within one standard deviation of mean according to published normative values (as referenced in Harrington et al., 2013). Mild cognitive impairment (MCI) participants were those individuals with CDR of 0.5 and fulfilled the current MCI criteria (Seshadri et al., 2011).” (pg.4)

4. Given that the sample included both cognitively healthy and MCI participants, is it possible that one subgroup might be driving your findings?  This should be explored and/or controlled for in the analyses.  I also suggest providing additional details regarding your study population in the results section of the manuscript in addition to the table.

Thanks for the suggestion. We added the following line to the Results section:

“In exploratory analysis we adjusted for cognitive status (CH versus MCI) to determine if this might be driving associations seen for WM-hyper (0.08±0.03, P=0.01) and WM-hypo (0.06±0.02, p<0.001) with age, -amyloid with WM-hyper (-0.12±0.04, p=0.009) and WM-hypo (-0.25±0.07, p=0.001) and tau with WM-hyper (p=0.69) and WM-hypo (0.8). Adjusting for cognitive status did not significantly alter any of the associations.” (pg. 5)