Sex differences in risk factors that predict conversion from Mild Cognitive Impairment to Alzheimer’s dementia

**Supplemental Material:**

CSF Biomarkers:

Of the two approaches ADNI has used to quantify CSF Aβ1–42 (Aβ-42) and phosphorylated tau181 (p-tau), the data based on the newer Roche Elecsys® electrochemiluminescence immunoassay were used in this study. Aβ-42 values falling above the technical upper limit (i.e., 1700pg/mL) were truncated at 1700pg/mL.

Aβ-42 was included given that low concentrations are considered an “A” biomarker (Jack et al., 2018) and it is a widely accepted form of pathological amyloid (Blennow et al., 2015). Phosphorylated tau (p-tau) was included as the “T” biomarker (Jack et al., 2018). P-tau is thought to reflect the formation of neurofibrillary tangles, it is associated with faster progression from MCI and AD, and it may be effective for differentiating AD from other forms of dementia (Blennow et al., 2010). Although not included within the ATN framework, the ratio of p-tau and amyloid was also included due to reports that combined measures of amyloid and tau provide greater specificity (see recommendations by the International Working Group; Dubois et al., 2014). Hippocampal volume was included as a recommended measure of “N” as it is widely studied in AD research and has been shown to predict progression to Alzheimer’s dementia (Jack et al., 1999). Ventricular volume was also included given that this metric is a possible measure of Alzheimer’s disease progression (Nestor et al., 2008), it has been implicated in CSF clearance dysfunction (Johanson et al., 2008), and it may be a confounding variable when studying CSF biomarkers, with greater ventricular size altering the concentration of CSF proteins (Van Waalwijk Van Doorn et al., 2017).

Supplemental Table 1. Cox PH analyses of baseline measures predicting conversion to AD stratified by sex. Regression analyses run separately for each variable adjusting for age (years) and education (years).



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