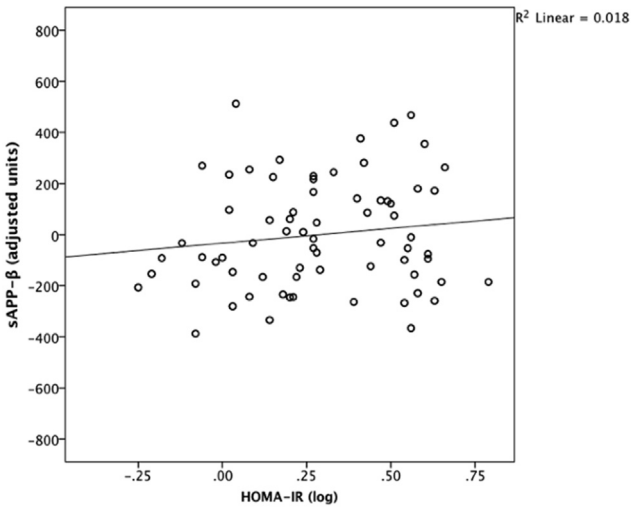

Figure 2.

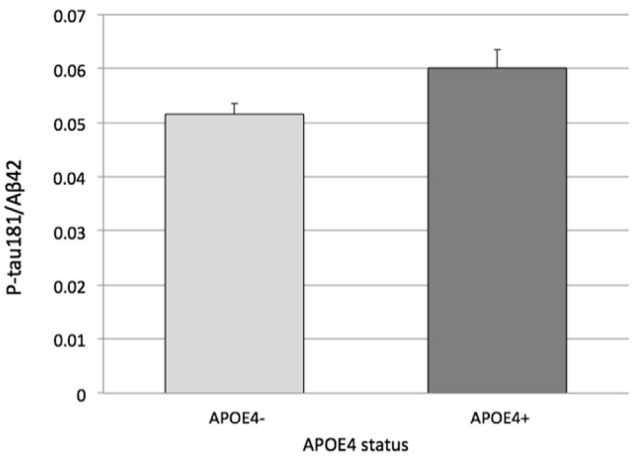

Figure 3.

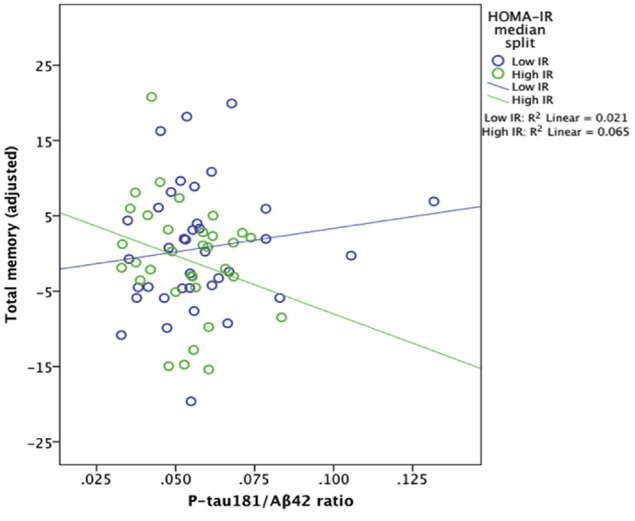

Figure 4.

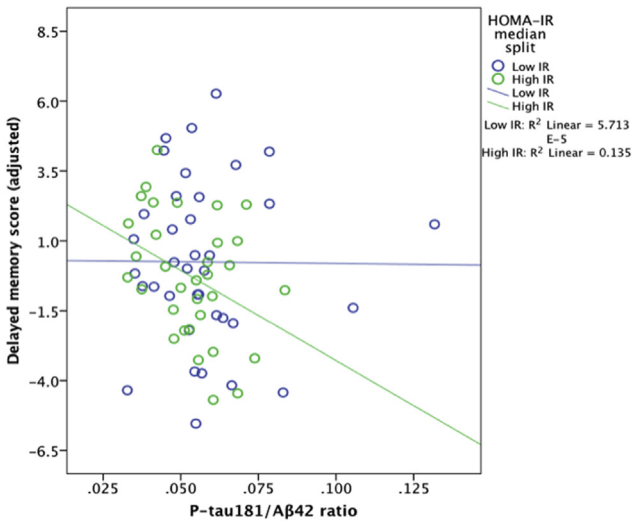

Figure 5.

combination of IR with AD pathology is particularly deleterious. Finally our results provide further evidence that *APOE*ε4 status is a strong predictor of pathological brain change and that early changes in AD biomarkers can be observed even in asymptomatic adults at midlife.

P3-104 ASSOCIATIONS BETWEEN SUBJECTIVE MEMORY COMPLAINTS AND HIPPOCAMPAL VOLUME IN PRECLINICAL EARLY-ONSET ALZHEIMER'S DISEASE

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Background: There is increasing evidence that subjective memory complaints (SMC) may be one of the earliest clinical signs of preclinical Alzheimer's disease (AD) in late-onset AD. Understanding the relevance of SMC in early-onset AD is relatively underexplored. Our goal was to examine self-reported and informant-based SMC in young cognitively-intact individuals who carry the E280A mutation in presenilin-1 (PSEN1) gene and age-matched noncarriers. Furthermore, we sought to examine the association between SMC with hippocampal volume. **Methods:** Participants were 51 cognitively-intact volunteers from a Colombian kindred with autosomal dominant early-onset AD; 25 were positive for the AD-associated PSEN1 mutation (mean age 34 +/- 7 years), whereas 26 were noncarriers (mean age 37 +/- 6 years). All participants underwent comprehensive clinical and neuropsychological assessments, and structural MRI scans. Participant-informant dyads were asked to complete a 15-item questionnaire of SMC (Acosta-Baena, et al. 2011). We compared groups using t-test analyses and calculated Cohen effect size (d). Pearson

correlation coefficients (R) were performed to explore the associations between ratings of SMC and hippocampal volume. **Results:** Groups did not differ in age, education, ratio of men to women, or performance on cognitive measures (e.g. memory, language, visuospatial and executive functioning). There were no differences between groups in hippocampal volume. Self-reported ratings of SMC were higher in the carrier group compared to the non-carrier group (d= 0.72, p-value= 0.01), whereas there were no differences across groups for the informant-based ratings. In the carriers alone, informant-based ratings of SMC were significantly correlated with hippocampal volume (R= -0.47, p-value=0.04). **Conclusions:** These findings suggest that self-reported ratings of SMC may be the earliest sign of subtle cognitive changes in preclinical familial Alzheimer's disease. By contrast, informant-based ratings may be more relevant for diagnosis as the AD-related limbic neurodegeneration progresses. Further research is needed to determine whether ratings of SMC could be useful for identifying individuals at high risk to develop AD.

P3-105 FRAILTY MEASURE PREDICTS INCIDENT DEMENTIA IN THE OLDEST OLD

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Background: Identifying those who may be at risk of developing dementia is of increasing importance in both research and practice. However, data from the hypertensive oldest old, a group at high risk, are few despite the growing size of this group. The oldest old are also at high risk of frailty and there is increasing evidence of an association between level of frailty and onset of dementia or symptoms of cognitive decline. There are multiple ways in which frailty can be measured, one of these is the Frailty Index (FI). The FI counts the number of 'deficits' (eg symptoms/signs/disease) and divides by the total number observed producing a frailty value between 0 and 1 with higher values indicating greater frailty. The FI can be operationalised in existing data sets and can therefore be used to examine potential relationships between frailty and dementia in the hypertensive oldest old. **Methods:** The Hypertension in the Very Elderly (HYVET) Trial was a double-blind placebo-controlled trial of antihypertensives in older adults (>=80 years) with systolic blood pressure >=160mmHg. HYVET showed treatment reduced risks of cardiovascular events but not dementia. Cognitive testing was carried out at baseline and annually and incident dementia cases validated by an independent blinded committee. HYVET also collected baseline data in a variety of areas including symptoms/diseases/blood tests/quality of life and depression scales. An FI was calculated using this baseline data and its relationship to incident dementia examined using Cox proportional hazard regression analysis. **Results:** Baseline FI ranged from 0.01 to 0.63 with a median of 0.16. Higher baseline FI was associated with an increased risk of dementia (HR 1.017 95% Confidence Interval (CI)1.003:1.031, per FI increase of 0.01) adjusted for age and sex. However, the relationship appears to be stronger in men (HR1.040 (1.016:1.066) than in women (HR1.007 (0.990:1.024). **Conclusions:** The FI may be one tool that can be used to predict incident dementia in the oldest old with hypertension. Further investigation of the relationship between frailty, sex and risk of dementia is required.

P3-106 OLFACTORY IDENTIFICATION DEFICITS ARE ASSOCIATED WITH INCREASED MORTALITY IN A MULTIETHNIC URBAN COMMUNITY

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Background: Olfactory identification deficits are known to be associated with cognitive decline in cognitively intact older adults and to predict the transition from mild cognitive impairment to Alzheimer's disease. There is uncertainty as to whether olfactory deficits are associated with increased mortality. The goal of the study was to determine the association between baseline odor identification deficits and future mortality in a multiethnic community cohort study of older adults. **Methods:** The stratified random sample of 50% of Medicare beneficiaries comprised 1169 study participants evaluated and followed between January 2004 and December 2010. Participants were evaluated with the 40-item University of Pennsylvania Smell Identification Test (UPSIT). Follow-up occurred at 2-year intervals with information on the date of death available from informant interviews and the National Death Index (U.S.A.). **Results:** During follow-up (mean 4.1 SD 2.6 years), 349 of 1169 (29.85%) participants died. Participants who died were more likely to be older ($p < 0.001$), male ($p < 0.001$), have lower UPSIT scores ($p < 0.0001$), and be diagnosed with dementia ($p < 0.001$). In a Cox model, the association between lower UPSIT score and mortality (Hazard Ratio HR=1.07 per point interval, CI1.05 to 1.08, $p<0.001$) persisted after controlling for age, gender, education, ethnicity, language, modified Charlson medical comorbidity index, dementia, depression, alcohol abuse, head injury, smoking and BMI (HR=1.05, CI:1.03 to 1.06, $p<0.001$). Compared to the fourth quartile with the highest UPSIT scores, HRs for mortality for the first, second, and third quartiles of UPSIT scores were 3.81 (CI 2.71 to 5.34), 1.75 (CI 1.23 to 2.50), and 1.58 (CI 1.09 to 2.30), respectively. Participant mortality rate was 45% in the lowest quartile of UPSIT scores (anosmia) and 18% in the highest quartile of UPSIT scores. **Conclusions:** Impaired odor identification, particularly in the anosmic range, is associated with increased mortality in older adults even after controlling for dementia and medical comorbidity. The basis of this finding is unclear, but may reflect safety and nutritional issues associated with the loss of smell.