decline in both BADLs and IADLs was significantly greater (p=0.015 and p=0.002 respectively) in CIND-AD than in the CIND-Stable group. The baseline DAD score did not contribute significantly to the prediction of progression to AD (OR 1.0, 95% C.I. 0.9-1.1). **Conclusion:** As expected, individuals progressing to AD showed a greater decline in their functional abilities; however, the DAD total score at entry did not predict progression to AD. We anticipate that an evaluation of higher social functioning is likely required to detect the earliest significant changes in function that may herald or predict progression to AD.

P2-184 CAUSES AND OUTCOMES OF COGNITIVE IMPAIRMENT NOT DEMENTIA (CIND) IN A NATIONAL SAMPLE OF U.S. ADULTS

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Background: Population-based studies of Cognitive Impairment that is Not Dementia (CIND) are rare. The causes (i.e., sub-types) and outcomes of CIND in population-based samples may be different than those in clinic-based samples. **Objectives:** 1) To identify sub-types of CIND in a nationally representative population-based sample of US adults; and 2) to determine the 18-month outcomes for progression to dementia and death among these CIND sub-types. **Methods:** The Aging, Demographics, and Memory Study (ADAMS), a national population-based study of 856 US adults age 70 or older was used. ADAMS CIND sub-types were defined based on clinical and neuropsychological criteria from prior studies. Extensive in-home clinical and neuropsychological assessments were performed, and an expert consensus panel used the assessments to assign a diagnosis of normal, CIND, or dementia. Sub-types of CIND were assigned to denote the cause of cognitive impairment. An 18-month follow-up in-home assessment was performed for all those diagnosed with CIND at the baseline assessment. **Results:** CIND was diagnosed in 23% of study participants. Prodromal Alzheimer's disease (AD) was the most common CIND sub-type (39% of cases). Other medical conditions (e.g., heart disease, lung disease, diabetes) accounted for 23% of CIND cases, while Stroke (14%) and Vascular Cognitive Impairment (8%) were also common. Those with CIND due to Prodromal AD were significantly more likely to progress to dementia at 18 months compared to the other CIND groups (30% vs. 17%; P<.05). Those with CIND due to other medical conditions were most likely to die compared to the other CIND groups (28% vs. 12%; P<.05), but were also most likely to show significant cognitive improvement (20% vs. 12%, P<.05). **Conclusions:** Nearly one-quarter of US adults age 70 or older have CIND. CIND due to Pro-dromal AD is associated with a very high likelihood of progression to dementia (30% in 18 months). Chronic medical conditions (e.g., heart disease, lung disease, and diabetes) are important causes for CIND in the community, and are associated with both high rates of death AND cognitive improvement. This important and heterogenous group of older adults with CIND has likely been under-represented in prior studies of clinic-based samples.

P2-185 METABOLIC AND COGNITIVE CHANGES WITH COMPUTER BASED COGNITIVE THERAPY FOR MCI

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Background: Observational studies have shown that cognitive activity may reduce the risk of development of dementia, and imaging studies suggest that changes in brain function result from cognitive training. Patients with mild cognitive impairment (MCI) might benefit from cognitive stimulation in order to reduce the risk of progression to dementia. **Objective:** We performed this study in order to investigate cognitive and brain metabolic changes (measured with fluorodeoxyglucose PET) resulting from a rigorous cognitive training program. **Methods:** Six patients with MCI (mean age 71.5, 3 men) were randomized to receive a 100 min/day computerized intervention for 4-7 weeks that was designed to improve brain processing of auditory stimuli. A control group of 9 MCI patients (mean age 71.5, 6 men) read on-line newspapers, listened to audio books, and played a computer video game for comparable times. FDG-PET was performed at baseline and following treatment, as was the Repeatable Battery for Assessment of Neuropsychological Status (RBANS). PET data were analyzed using spatially normalized scans and SPM2. Contrasts included both pre- and post-treatment comparisons for each group separately, and regressions between change in performance on the RBANS and change in glucose metabolism. **Results:** Groups were comparable on baseline MMSE scores (27.3 treatment and 26.9 control). Comparison of pre- and post-treatment PET showed reductions in glucose metabolism in right middle frontal lobes and right thalamus in the control group and no change in the treated group. In the treated group, improvements in the RBANS attention scale were correlated with increases in glucose metabolism in the right precuneus and right parietal lobe. Improvements in the RBANS visuospatial scale were correlated with increased metabolism in bilateral anterior and middle cingulate gyri and right insula. **Conclusions:** These results suggest the possibility that cognitive training slows the rate of metabolic decline in MCI. Individual patterns of behavioral change were related to underlying neural substrates, suggesting the possibility that this treatment approach may produce regionally specific effects on brain function.

P2-186 TREATMENT OF MILD COGNITIVE IMPAIRMENT WITH VITAMIN E AND DONEPEZIL: CORRELATIONS BETWEEN SERIAL MRI AND CONVERSION, GENOTYPE, AND TREATMENT STATUS

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Background: The vitamin E and donepezil study for the treatment of MCI was conducted in 769 subjects at 69 North American centers. Clinical results of this study have been reported (NEJM 2005; 352(23):2379-88). Twenty-four of the recruiting sites voluntarily participated in an MRI substudy. **Objective(s):** We report correlations between rates of atrophy from serial MRI and clinical conversion to AD, APO E genotype, and treatment arm in those who participated in MRI. **Methods:** A total of 194 subjects participated in the MRI substudy and 137 completed both a baseline and followup scan allowing for computation of rates of change over time. The followup MRI scan for each subject could have been either at the end of the study (36 months) or at an interim time point associated with clinical conversion from MCI to AD. In each subject, change from baseline to followup was measured for four different brain volumes; hippocampus, entorhinal cortex (ERC), whole brain, and ventricle. **Results:** For each of the four brain atrophy rate measures, annualized rates of atrophy were greater in those subjects who converted to AD vs non-converters (all p <0.000). Annualized rates of hippocampal (p<0.05), ERC (p<0.05), ventricular (p=0.002), and whole brain (p=0.004) atrophy were greater in APOE 4 carriers than non-carriers. A non significant trend consistent with treatment effect was observed across all four mean MRI rate measures for both donepezil and vitamin E. The number of treated subjects for which MRI measures were available varied for different MRI measures. **Conclusions:** Expected and highly significant correlations were