

Memory Care Monthly

Supporting Healthcare Professionals in Caring for the Aging

May / June 2008

MEET US AT ICAD 2008: July 26-31 MacCormick Place Chicago

This year at Alzheimer's Association International Conference on Alzheimer's Disease (ICAD) 2008, our memory assessment technology is featured in four poster-presentations.

Our Latest Technology

- Abstract#: 2080
Reducing Noise in Clinical Trials: Improving The ADAS-Cog Scoring
- Abstract#: 2953
Validation of the Memory Performance Index: Aggregate Analysis of 38,000 Subjects

Application of Our Technology

- Abstract#: 2970
Disease Delaying Effects of 5-Year Treatment of Early Stage Alzheimer's Disease: A Case Series
- Abstract#: 3141
IVIG Therapy in Alzheimer's and Lewy Body Disease

For more information on ICAD 2008, please visit <http://www.alz.org/icad/>.

Featured Article

Protective Effects of NSAIDs on Alzheimer's

Nonsteroidal anti-inflammatory drugs (NSAIDs)'s protective effect against Alzheimer's disease (AD) has generated contradictory results through observational studies and trials.

Randomized clinical trial lasting 6-12 months, using naproxen, rofecoxib, declofenac/misoprostol and minesulide, showed no improvement in cognitive function in AD patients, while a 6-month study with indomethacin showed cognitive functional improvement. More recently, ADAPT (Alzheimer's Disease Anti-inflammatory Prevention Trial) found no significant decrease in the risk of AD from either naproxen or celecoxib although follow-up was curtailed at 3 years and a positive trend in its efficacy were evident. Animal models have shown NSAIDs' suppressive effect on Abeta1-42 amyloid formation, in particular, by ibuprofen, flurbiprofen, and diclofenac, but no data is available from human trials.

Those differences in efficacy are partly due to that fact that no study has had sufficient sample size, study duration, or medical records to provide detailed NSAIDs information over a 2-year period. Also, as has been shown in animal and laboratory studies, there are drug-specific, cyclooxygenase-independent effects of NSAIDs.

To examine the effect of longer-term use of specific NSAIDs as well as its Abeta1-42 suppressive effect, Vlad et al from Boston University School of Medicine analyzed a total of 246,199 cases (196,850 controls) of subjects over 55 years old and with incident AD from the US national Veterans Affairs (VA) Health Care system. Compared with no NSAIDs use, the adjusted odds ratios for AD among NSAID users decreased from 0.98 for ≤ 1 year of use to 0.76 for > 5 year of use. This decrease was clearest, from 1.03 to 0.56, for ibuprofen users, and the effect increased with the duration of its use. Other NSAIDs showed inconsistent results. There was no difference between a group of Abeta1-42 suppressing NSAIDs and others. The result warrants further trials in AD using specific types of NSAIDs such as ibuprofen.

Vlad SC, et al. *Neurology*. 2008; 70(19):1672-1677.

Research Updates

The Japanese MCI Screen for Early Detection of ADRD

The Japanese MCI Screen (J-MCIS) was evaluated for early detection of ADRD in Japan. A study lead by Dr. Yamada from the department of Neurology, Fukuoka University School of Medicine compared performance statistics for the J-MCIS, MMSE, quantitative SPECT (qSPECT) and volumetric MRI (qMRI) in 63 patients who were either normal or with mild cognitive impairment by Clinical Dementia Rating Scale (CDR), medical history and informant report. The J-MCIS had the highest accuracy of 96.4% while MMSE, qSPECT and qMRI had 76.8%, 72.2% and 73.3%, respectively.

Cho A, et al. *AJADD*. 2008; 23(2):162-166.

Developing Biomarkers for Parkinson's Disease

The development of biomarkers for the diagnosis and monitoring disease progression in Parkinson's disease (PD) is of great importance to reduce diagnostic errors based on clinical parameters.

A research group lead by Dr. Mikhail Bogdanov from Department of Neurology and Neuroscience, Weill Medical College of Cornell University, New York Presbyterian Hospital, New York, NY, utilized metabolomic profiling using high performance liquid chromatography coupled with electrochemical coulometric array detection (LCECA) to look for biomarkers in plasma useful for the diagnosis of PD.

Metabolic profiles from 25 controls and 66 PD patients were examined. Results have shown, in PD patients, increased level of 8-hydroxy-2-deoxyguanosine (8-OHdG), a marker of oxidative damage to DNA, as well as reduced levels of uric acid and increased levels of glutathione.

Bogdanov M, et al. *Brain*. 2008; 131(2):389-396.

APOE-e4 May Be Beneficial in Recovery from TBI

Persons with apolipoprotein e4 (APOE-e4) allele are suggested to have a worse recovery outcome from traumatic brain injury (TBI). However, a study, lead by Willemse-van Son and colleagues from Department of Rehabilitation Medicine at Erasmus Medical Center in Rotterdam, the Netherlands, have shown better long-term, global functional outcomes in patients with APOE-e4 after TBI.

79 moderate and severe traumatic brain injury patients were assessed at 3, 6, 12, 18, 24 and 36 months post injury for global functional outcome, on activity limitations and participation restrictions, and on community integration using the Glasgow Outcome Scale (GOS), the Sickness Impact Profile-68 (SIP-68) and the Community Integration Questionnaire (CIQ). The GOS measure was significantly better in patients with APOE-e4 while the other measure did not differ.

Willemse-van Son AH, et al. J Neurol Neurosurg Psychiatry. 2008; 79(4):426-30.

Brain Atrophy Rate Accelerate in Amnesic Mild Cognitive Impairment

Researchers found that rates of brain atrophy accelerate as individuals progress from amnesic mild cognitive impairment (aMCI) to typical late onset Alzheimer's disease (AD). Rates of atrophy were greater in younger patients than older patients with aMCI who progressed to AD (aMCI-P), and than patients with aMCI who did not progress (aMCI-S).

Rate of brain shrinkage and ventricular expansion were measured across available serial MRI scans in 46 patients with aMCI-P, 46 normal control, and 23 with aMCI-S. In aMCI-P, the change in pre to post index rate (i.e. acceleration) of ventricular expansion was 1.7 cm³/year, and acceleration in brain shrinkage was 5.3 cm³/year. Brain volume decreased and ventricular volume increased in all three groups with age. Among all patients with aMCI, rates of atrophy were greater in patients with the apolipoprotein E e4 carrier.

This study was lead by Dr. Clifford R. Jack Jr. and colleagues from Mayo Clinic, Diagnostic Radiology, Rochester, MN.

Jack Jr. CR, et al. Neurology. 2008; 70(19):1740-1752.

Obesity Associated with Increased Risk for Stroke in Middle-Aged Women

Dr. Amytis Towfighi and colleagues from the University of Southern California examined gender differences in stroke prevalence among individuals of midlife age (35 to 64 years) in the United States and determined factors predicting stroke using two surveys, the National Health and Nutrition Examination Survey III (NHANES III; 1988-1994) and NHANES IV (1999-2004).

They looked specifically at stroke prevalence, medical histories, and biomarkers among age 35-54 men and women who reported that their doctors had diagnosed stroke (NHANES III: n=5,122; NHANES IV: n=4,594).

Among middle-aged women, stroke prevalence increased from 0.6% in NHANES III to 1.8% in NHANES IV, while it changed little in men (0.9% in NHANES III and 1.0% in NHANES IV). The abdominal obesity defined as a waist circumference over 88 cm also increased 47% to 59% in middle-aged women during the two-survey period (29% to 47% increased in men). Mean BMI also increased from 27.1 to 28.8 for middle-aged women and 27.2 to 28.4 for middle-aged men.

Towfighi A, et al. Neurology. 2007; June 20 e-Publication.

Towfighi A, et al. 2008 International Stroke Conference, New Orleans, LA.

Effect of Folic Acid and B Vitamins on Risk of Cardiovascular Events and Total Mortality Among Women with High Risk Cardiovascular Disease

Although observational data suggests greater benefits of B-vitamin supplement against cardiovascular disease (CVD) in women, published randomized trials are very limited. To test whether a combination of folic acid, vitamin B₆ and B₁₂ lower CVD among high-risk women with and without CVD, a randomized trial was conducted by Dr. Christine N. Albert and colleague from Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA.

Within ongoing randomized trial of anti-oxidant vitamins, 5,442 women who were US health professionals over 42 years old with either a history of CVD or 3 or more coronary risk factors, were enrolled in a randomized, double-blind, placebo-controlled trial to receive a combination pill of 2.5mg of folic acid, 50mg of vitamin B₆, and 1 mg of vitamin B₁₂, and followed up for 7.3 years.

Results show that a combination treatment did not reduce a combined end point of total cardiovascular events (e.g. myocardial infarction, stroke, coronary revascularization or CVD mortality) among high-risk women, although significant homocysteine lowering effect was observed.

Albert CM, et al. JAMA. 2008; 299(17):2027-2036.

Free Patient Brochure

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