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ALZHEIMER'S PREVENTION THROUGH DELAY

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New Study Highlights the Efficacy of the MCI Screen in Primary Care Practice

A new study included in the June issue of *Journal of Alzheimer's Disease* highlights the unsurpassed ability of the MCI Screen to efficiently detect the earliest signs of abnormal memory loss in a primary care setting. The MCI Screen uses technology and mathematics to improve the accuracy of memory assessments. Furthermore, the study makes the clinical justification for regularly assessing the memory of individuals over the age of 65. The study was conducted by Dr. Douglas Trenkle, a primary care physician at Maine Coast Memorial Hospital, as a part of the Hancock County Aging Project.

Entitled "Detecting Cognitive Impairment in Primary Care: Performance Assessment of Three Screening Instruments," the study compared the MCI Screen to the two most widely used pen-and-paper assessments, the Mini-Mental Status Exam (MMSE) and the Clock Drawing Test (CDT). All patients over 65 without previous diagnosis of memory disorders were assessed using each of the three instruments. Those found to be impaired with any of the three assessments received a standard diagnostic workup including blood tests and brain imaging. The MCI Screen was 96% accurate in detecting patients with impairment, while the MMSE was 72% accurate and the CDT 57%. The MCI Screen detected memory disorders from a variety of conditions ranging from Alzheimer's disease (43%) to cerebrovascular disease (36%) to depression (3%).

PREVENTION HIGHLIGHT

Update on Alzheimer's Treatments: Beta-Amyloid Lowering Agents

Beta-Amyloid is a protein found in the human body. In Alzheimer's disease patients, beta amyloid is abnormally processed by nerve cells and forms amyloid plaques in the brains of persons with the disease. These beta-amyloid deposits cause cognitive impairment in Alzheimer's patients.

Beta-Amyloid Lowering Agents (BALA) is a class of medications that lowers beta amyloid levels in the brain. Currently, there are no medications in BALA class available on the market. However, there are approximately 17 drugs in FDA phase I-III clinical trials which lower beta amyloid levels in the brain. An illustrative example of the BALA class of drugs is Flurizan (tarenflurbil), which has four years of FDA phase II and III clinical data, and has already closed enrollment for their final phase III study.

To date, approximately 1600 mildly-moderately demented AD patients have been treated with Flurizan daily doses of 800-1600 mg for up to four years. Flurizan is well tolerated with possible adverse effects of anemia, eosinophilia, mild hypertension, lower respiratory tract infections, rash, and mild cardiac conditions occurring more commonly than placebo. However, more serious vascular adverse effects of stroke and heart attack did not occur more commonly than placebo. According to tests, Flurizan is more effective when started earlier in the course of AD. Over a two-year period, there was a significant delay in the course of the disease for those taking Flurizan when compared to placebo. The Flurizan example of the BALA class of AD medications demonstrates that early detection, diagnosis and treatment of Alzheimer's will become increasingly important. FDA approval for the BALA medications, Alzhemed (Neurochem Inc.) and Flurizan (Myriad, Inc.) are anticipated to be in 2008-9.

RESEARCH UPDATES

Chronic Distress May Be a Risk Factor for Mild Cognitive Impairment

The 6-item measure of neuroticism was used as a marker of the tendency to have psychologic distress. The study included approximately 1200 people who were followed up to 12 years. For each one unit increase of distress, the risk of mild cognitive impairment increased 2%. This study was led by R. S. Wilson, PhD from Rush Medical Center, Chicago, Illinois and the results were published in the journal *Neurology*.

Frequent Cognitive Activity May Reduce Risk of Alzheimer's Disease

R.S. Wilson, PhD and colleagues at Rush Medical Center, Chicago, Illinois followed 775 individuals for up to 5 years to study the link between cognitive activity and memory disorders. The mean age of the participants was 80.4. Examples of cognitive activity include reading the newspaper, going to see a play and playing chess or checkers. They found cognitively inactive people were 2.6 times more likely to develop Alzheimer's disease (AD) than a cognitively active person. Frequent cognitive activity was also linked to reduced incidence of mild cognitive impairment. However, researchers did not find a link between the level of brain activity and the risk of developing AD. The results of the study were published in the journal *Neurology*.

Forgetting May Have Benefits

In order to retrieve a specific memory, other irrelevant memories must often be suppressed. By forgetting, the demands on cognitive control during future remembering acts are reduced. The study was led by Dr. Brice A. Kuhl, from Stanford University. Healthy individuals were studied using MRI and word association tasks. The researchers found that when irrelevant memories were forgotten, brain activation during memory retrieval required less cognitive control.

Women Are Twice as Likely to Suffer From Stroke as Men in Midlife

A recent study found the risk of stroke for women between age 45 and 54 is more than double that of men in the same age range. The study was led by Amytis Towfighi, MD from

the Stroke Center and Department of Neurology at the University of California, Los Angeles and was published in *Neurology*. Between 1999 and 2004, stroke prevalence rates rose in women while declining in men. Predictors of stroke risk in women included the presence of coronary artery disease and increasing waist circumference.

Early Treatment of Stroke Reduces Risk of Recurrent Stroke

A new study led by Peter Rothwell, MD, PhD from University of Oxford, United Kingdom found that aggressive treatment of first ischemic attack (TIA) or minor ischemic stroke reduces the risk of recurrent stroke. The Expressive Preventive Strategies for Stroke (EXPRESS) study is a 5-year population based study. Current standard management in a group of TIA and minor stroke patients over 30 months was compared with early, aggressive management in a second, consecutive 30-month period in similar group of patients. Treatment protocol was the same for both groups of patients. Researchers concluded that relative risk of recurrent stroke was reduced by more than 90% among patients who received early, aggressive treatment of first stroke.

Type 2 Diabetes Increases Risk of Stroke 2-Fold

Individuals with type 2 diabetes are twice as likely to suffer from a stroke within the first 5 years of diagnosis compared to the general population. Researchers found a 10% absolute risk for stroke within five years of a diabetes diagnosis versus a 4.5% absolute risk in the general population. Thomas Jeerakathil, MD, MSc from the University of Canada, Alberta, studied data from health databases from the province of Saskatchewan. Stroke hospitalizations are documented annually by age and sex. 12,272 people aged 30 or older were included in the diabetes cohort.

Type 2 Diabetes Linked to Loss of Brain Tissue

According to a recent study type 2 diabetes is associated with brain atrophy in the frontal and temporal regions. Cerebral blood flow (CBF) levels of 26 diabetics (aged 61.6 +/- 6.6 years) were compared to 25 comparable controls (aged 60.4 +/- 8.6 years). Regional gray and white matter, cerebrospinal fluid (CSF), and white matter volumes were also compared. The diabetic group had smaller global white and gray matter and larger CSF volumes than the controls. Also regional differences were observed for white matter and CSF in the frontal region, and for gray matter and CSF in the parieto-occipital region. CBF and CO₂ reactivity were reduced in the diabetic group.

These findings may have implications for cognition and balance in elderly subjects with diabetes.