

# an Ounce of Prevention

ALZHEIMER'S PREVENTION THROUGH DELAY

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## PREVENTION HIGHLIGHT

### Looking Forward to 2008: Beta-amyloid Reducing Agents

In 2007, the scientific community made great progress in the field of Alzheimer's disease (AD). Throughout the last year, scientists have gained further understanding of AD pathology, genetics, as well as factors that increase and reduce AD risk.

Looking forward, to the New Year, there is hope for even greater progress in the treatment of AD. A new class of AD treatments has shown great outcome in clinical trials. Beta-amyloid reducing agents work by reducing production of beta-amyloid, which causes plaques in the brain associated with AD. New therapies are designed to both treat the symptoms of AD and modify its course. These treatments represent a major advance in the field and could reduce not only the overall number of people suffering from AD, but also the societal cost of caring for those with AD by billions of dollars per year.

Of the beta-amyloid lowering agents, Flurizan, developed by Myriad Genetics, is expected to complete phase III trial in early 2008. If the trial is successful, Myriad will likely apply for market approval prior to year end.

## RESEARCH UPDATES

### One in Seven Older Americans Has Dementia

According to a new study funded by the National Institutes of Health, approximately 14% (3.4 million) of individuals aged 71 or older have dementia. The Aging, Demographics, and Memory Study (ADAMS), is the first population-based study of dementia. Approximately 5% of people aged 71 to 79 years and 37.4% of those aged 90 years and older had dementia. 856 participants were included in the ADAMS study. All subjects were evaluated from July 2001 to December 2003, which included interviews of cognitive and functional status and symptoms, neuropsychiatric symptoms, current medications, medical history, family history, and memory problems. Clinicians reviewed the information and presented it to an panel of experts which included neuropsychologists, neurologists, geropsychiatrists, and internists. These experts used Diagnostic and Statistical Manual of Mental Disorders, 3rd ed, revised (DSM-III-R) and DSM-IV criteria to make a final determination about the cognitive status of each subject.

Download the complete report at:

<http://www.nia.nih.gov/ResearchInformation/ExtramuralPrograms/BehavioralAndSocialResearch/HRS.htm>.

### **Rheumatoid Arthritis Increases Risk for Stroke**

Researchers analyzed data from the UK General Practice Research Database to study the link between rheumatoid arthritis (RA) and stroke. The database includes complete medical records of approximately 5% of the population of the United Kingdom. This study was based on data from 33,191 adults with RA and 99,570 others without RA between 1987 and 2002. Alison Endean, MBChB, MRCP from Southampton University Hospital in the United Kingdom led the study.

Between 1992 and 1995, the incidence of stroke in RA patients was 5.7 and that of the control group was 2.94 per 1000 patient years. This represents an incident ration rate (IRR) of 1.65 for patients with RA. In comparison, IRRs for patients with other risk factors for stroke were 20.5 for patients with diabetes, 1.75 for patients with hypertension, 1.97 for patients with myocardial infarction and 1.85 for patients with cardiac failure.

### **Latinos and African Americans With Alzheimer's Disease Outlive Whites and Other Minorities with the Disease**

Kala Mehta, DSc, from the University of California, San Francisco and colleagues analyzed data on 30,916 patients from 30 National Institute on Aging-funded AD centers (ADCs) in the United States. They found that on average, Latinos with Alzheimer's disease live 40% longer than whites with the disease. Additionally, African Americans live an average of 15% longer than whites. However, there was no significant difference between the lifespan of Asian and American Indian subjects with Alzheimer's disease when compared to whites. Patient data was collected between January 1, 1984 and April 1, 2005. All subjects included in the study were at least 65 years and had a diagnosis of possible or probable AD.

### **Study Links Alzheimer's Disease to Hypertension**

Using a new imaging technique called arterial spin-labeled magnetic resonance imaging (ASL MRI), researchers have studied the link between Alzheimer's disease (AD) and hypertension. The ASL MRI measures the cerebral blood flow through the brain in milliliters per 100 g of brain tissue per minute. Cyrus Raji, an MD and PhD candidate at the University of Pittsburgh, Pennsylvania led the study. They found that AD patients with hypertension had lower cerebral blood flow than AD patients without hypertension. The study included a group of control patients, a group with mild cognitive impairment and a third group with Alzheimer's disease. There were a total of 48 control patients, 38 with hypertension and 10 without hypertension. 20 patients had mild cognitive impairment (MCI), 10 with and 10 without hypertension. 20 patients had AD, 10 with and 10 without hypertension. In AD patients with hypertension, cerebral blood flow was 34.8 mL/100 g brain tissue/min on ASL MRI. In comparison, healthy controls with hypertension had blood flow of 41.43 mL/100 g/min. Patients with MCI with hypertension had blood flow of 47.75 mL/100 g/min.

### **High Blood Pressure and Irregular Heartbeat May Speed Progression of Alzheimer's Disease**

Dr. Michelle Mielke, assistant professor of psychiatry at Johns Hopkins University School of Medicine researched the connection between high blood pressure and irregular heartbeat

and Alzheimer's disease. The study included 135 women and men aged 65 or older from Cache County, Utah with possible or probable Alzheimer's disease. The subject did not have concurrent vascular dementia. Subject with systolic blood pressure greater than 160 or arterial fibrillation progressed through the stages of Alzheimer's disease quicker.

### **Three Dietary Modifications May Reduce Risk of Dementia**

A recent study suggests that incorporating three staples to your diet may reduce the risk of Alzheimer's disease (AD). The study was based on analysis of data on 8,085 people aged 65 or older who live in the following French cities: Bordeaux, Dijon and Montpellier. Increased consumption of fish, omega-3 oils, and fruits and vegetables reduced the risk of dementia and Alzheimer's. This reduction of risk was more pronounced in those who do not have the apolipoprotein E  $\epsilon$  4 (ApoE  $\epsilon$  4), the gene associated with increased risk of AD. Conversely, consumption of omega-6 oils such as sunflower oil and grape seed oil increased the risk of dementia and AD, unless individuals also consumer omega-3 oils.

The 8,085 subjects were followed for four years. At the onset of the study none had dementia. After 4 years, 281 had developed dementia. Individuals who ate fruits and vegetables daily had a 28% reduced rate of developing dementia. Dementia was 40% less common in individuals who ate fish. Regular consumption of omega-3 oils significantly reduced the risk of all dementias. Pascale Barberger-Gateau, PhD, of the Institut National de la Santé et de la Recherche Médicale (INSERM), the French National Institute for Health and Medical Research, in Bordeaux, France, led this study.

### **Low Levels of HDL Cholesterol May Increase Memory Problems After Stroke**

Low levels of high-density lipoprotein (HDL) cholesterol, also known as the good cholesterol, may slow recovery of stroke patients. Likewise, high levels of homocysteine, found mostly in meat products, may increase the risk of post-stroke disability. Dr. George C. Newman, with the Albert Einstein Healthcare Network in Philadelphia, led the study, which included 3,680 men and women over the age of 35 in Canada, Scotland and the United States. All subjects had suffered mild to moderate strokes within three months.