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## PREVENTION HIGHLIGHT

### Disease Delaying Effects of Current Treatments for Alzheimer's Disease

A class of medications called cholinesterase inhibitors are currently used to treat Alzheimer's disease (AD). The long-term studies of the cholinesterase inhibitors support their ability to delay AD progression during the dementia stage by up to 2.5 years, which underscores the importance of early detection to optimize quality of life. Cholinesterase inhibitors also reduce caregiving burden by delaying AD progression. A one-year randomized study showed that caregivers spent 12 hours per day taking care of AD patients receiving placebo, whereas those receiving a cholinesterase inhibitor required 10.1 hours of caregiving daily. This difference amounted to an extra 10 weeks of caregiving per year for untreated AD patients.

Following is an overview of the cholinesterase inhibitor treatments currently available.

**Tacrine** was the first cholinesterase inhibitor approved to treat AD. A two year study comparing high doses to low doses in mild to moderate AD patients showed that the patients on high doses were 1.75 times less likely to be placed into a nursing home after two years of treatment.

**Aricept (donepezil)** – Aricept is FDA-approved for mild, moderate and severe AD. Overall, there appears to be an approximate 33% reduction in the rate of decline of AD for up to 3 years, which is equivalent to a delay of approximately 1 year.

**Razadyne (galantamine)** – Razadyne is FDA-approved for mild to moderate AD. Overall, there appears to be a 50% reduction in rate of decline in AD for at least three years, which is equivalent to a delay of 1.5 years or longer.

**Exelon (rivastigmine)** – Exelon is FDA-approved for mild to moderate AD. Overall, there appears to be a 54% reduction in rate of decline in AD for at least five years, which is equivalent to a delay of 2.5 years or longer.

## **Retinopathy May Lead to Reduced Cognitive Function**

Researchers at the University of Melbourne Centre for Eye Research, Australia studied the relationship between retinal microvascular manifestations and reduced cognitive function and dementia. The study included 2,211 subjects aged 69 to 97 years. Retinal photographs were taken at enrollment into a cardiovascular health study and were evaluated for retinopathy signs, such as microaneurysms and retinal hemorrhage and for symptoms, including focal arteriolar narrowing. More than half of the patients had hypertension. The Digit-Symbol Substitution Test was used to evaluate cognitive status. After adjusting for factors such as age, hypertension, diabetes, and cigarette smoking status, subjects with retinopathy had lower cognitive status than those without. In subjects with hypertension, retinopathy carried an adjusted odds ratio of 2.10 for dementia. For focal arteriolar narrowing, the corresponding odds ratio was 3.02.

## **Socioeconomic Status May Play a Role In Stroke Recovery**

Dr. Putman of Vrije Universiteit Brussel, Belgium and colleagues found certain socioeconomic factors played a role in the recovery of patients suffering from stroke. He used the Barthel Index and Rivermead Motor Assessment (RMA) to evaluate 419 stroke rehabilitation patients on admission, at discharge and 6 months after stroke. During the inpatient period, both measures indicated that patients with a low education level were about half as likely to improve when compared to those with higher education levels. However, there was no difference in recovery among groups with differing income levels. After discharge, those with a low income were considerably less likely to recover as gauged by scoring on the RMA for gross function, for leg and trunk function, and for arm function. There were no differences related to education.

## **Increased BMI May Be A Risk Factor for Stroke**

Increased body mass index (BMI) is a risk factor for both total and ischemic stroke according to a study led by Gang Hu, MD, PhD, from the National Public Health Institute and the University of Helsinki in Finland. The study consisted of 49,996 Finnish men and women who were aged 25 to 74 years and free of coronary heart disease and stroke at the beginning of the study. The researchers investigated the association of BMI, waist circumference, and waist-hip ratio with total and ischemic stroke incidence among the group. On average, the subjects were followed-up for 19.5 years. During that time, 3,228 subjects (1,673 men and 1,555 women) had an incident stroke. Of these, 674 were hemorrhagic and 2554 were ischemic. After adjusting for age, study year, smoking status, physical activity, educational level, family history of stroke, and alcohol consumption, the researchers found that increasing BMI was a risk factor for total and ischemic stroke in both men and women when compared with individuals of normal weight.

## **Reduced Waistline May Lower Risk for Diabetes and Heart Disease**

A recent study found that men and women whose waistlines expand by 3 inches or more over nine years were at increased risk of metabolic syndrome. Metabolic syndrome is a collection of risk factors including high blood pressure and high cholesterol that leads to an increased risk of developing diabetes and heart disease. Women who lost one or more inches off their waistline had lower risk of developing high cholesterol and high blood pressure. A slimmer waistline also benefited women who already had high cholesterol and

blood pressure. Although slimmer waistlines benefited men, it was no longer evident when BMI were factored into the results. Dr. Beverley Balkau, a researcher at the French National Health Institute INSERM, led this study.

### **Breast Cancer Treatments May Cause Cognitive Impairment**

A recent study, presented at the American Society of Clinical Oncology 43rd Annual Meeting, looked at the neuropsychological effects of two breast cancer treatments, tamoxifen and exemestane, used after chemotherapy. The lead author was Christina Schilder, from the Netherlands Cancer Institute, in Amsterdam. The study, conducted by the Cancer Research Campaign Trials Unit, in the United Kingdom, began in 2001 and included 4,400 breast cancer patients. Patients were randomized to receive tamoxifen or exemestane. The researchers compared the cognitive function of those treated patients with healthy controls.

Both tamoxifen and exemestane users scored significantly lower on information processing speed than healthy controls. Additionally, tamoxifen users scored significantly lower on mental flexibility and category fluency than healthy controls. Finally, both tamoxifen and exemestane users reported significantly more memory problems in daily life compared with healthy controls.

### **Adopting a Healthier Lifestyle at Any Age Has Benefits**

According to a study published in the July issue of the American Journal of Medicine, eating five or more servings of fruits and vegetables per day, exercising at least 2.5 hours per week, BMI 18.5–29.9, and not smoking can reduce the chance of developing heart disease by 35% and the risk of dying by 40% when compared to those with less healthy lifestyles. The researchers also found that there was a great benefit to switching to a healthy lifestyle after the age of 45 and even slight changes had benefits. This study was led by Dr. Dana E. King of the Medical University of South Carolina.