

A summary of general medicine news that affects your patients, your practice, and you.

Combination Antiretroviral Therapy Increases Life Expectancy of HIV Patients

Improvements in combination antiretroviral therapy (cART) has increased the life expectancy of HIV-infected patients who live in high-income countries by more than 13 years, and the mortality rate has dropped nearly 40%, according to a study published in the *Lancet*.

The study, conducted by the University of Bristol and published in an HIV Special Issue of the *Lancet*, examined 14 studies in Europe and North America. Researchers analyzed 18,587, 13,914, and 10,584 patients who started cART in 1996 to 1999, 2000 to 2002, and 2003 to 2005 respectively. During the study period 2,056 patients died, with mortality decreasing 40% from 16.3 deaths per 1,000 person-years in 1996 to 1999 to 10.0 in 2003 to 2005. Potential life years lost per 1,000 person-years over the same periods decreased 48% from 366 to 189. Additionally, life

expectancy increased from 36.1 years in 1996 to 1999 to 49.4 years in 2003 to 2005—a more than 13-year increase.

Patients who started cART with lower CD4+ cell counts had a life expectancy of 32.4 years compared with 50.4 years in patients treated at earlier stages of the infection with higher CD4 loads. Researchers found that patients who contracted HIV via drug use had a life expectancy of more than 10 years less than those who transmitted the infection by other means (32.6 years vs 44.7 years). Finally, women had a slightly longer life expectancy than men (44.2 years vs 42.8 years).

Although cART regimens have drastically improved since its introduction in 1996, the therapy is relatively novel, and its effect on life expectancy of people with HIV is not well understood, the researchers noted.

Cardiorespiratory Fitness Positively Affects Brain Atrophy in Early Alzheimer Patients

Increased cardiorespiratory fitness is associated with reduced brain atrophy in early-stage Alzheimer disease (AD), according to a study published in *Neurology*. Researchers assessed the cardiorespiratory fitness of patients with AD compared with patients without dementia via MRI, standard clinical and psychometric evaluations, and a graded treadmill test. Cardiorespiratory fitness was modestly reduced in patients with AD compared with patients without dementia. The researchers suggested that cardiorespiratory fitness may moderate brain atrophy in AD patients or that a common underlying AD-related process may affect both brain atrophy and cardiorespiratory fitness. Patients without dementia did not exhibit a relationship between fitness and brain atrophy.

Mediterranean and Low-Carbohydrate Diets Are Healthy Choices

Mediterranean and low-carbohydrate diets are effective alternatives to low-fat diets, according to a study recently published in the *New England Journal of Medicine*.

Over a 2-year trial, researchers randomly assigned 322 obese patients to one of three diets: low fat, restricted calorie; Mediterranean, restricted calorie; or low carbohydrate, non-restricted-calorie. Mean age of the patients was 52, and mean body-mass index was 31.

The mean weight loss for the low-fat group was 6.4 lbs, for the Mediterranean group 9.7 lbs, and for the low-carbohydrate group 10.3 lbs. Of 272 participants who completed the intervention, the mean weight losses were 7.3 lbs for low fat, 10.1 lbs for Mediterranean, and 12.1 lbs for low carbohydrate. The ratio of total cholesterol to high-density lipoprotein cholesterol decreased 20% in the low-carbohydrate group and 12% in the low-fat group. Among patients with diabetes (36), fasting plasma glucose and insulin levels were more favorable among those on the Mediterranean diet than among those on the low-fat diet.

US Announces \$30 Million Grant for Civilians' Ground Zero Illnesses

The Centers for Disease Control and Prevention plans to award \$30 million in grants to hospitals and clinics that monitor and treat nonresponders who were exposed to dust and smoke at the sites of the terrorist attacks on September 11, 2001. Nonresponders include those who were not among the rescue and recovery workers on and following the attacks. Institutions are

required to apply for grants, and as many as three hospitals or clinics will be awarded grant money.

Some Prescription Drugs Linked With Increased Risk of Falling

Patients aged 65 years and older who take four or more medications are two to three times more likely to fall than those who take less than four medications on a regular basis, according to interim results of an ongoing study published in the *American Journal of Geriatric Pharmacotherapy*. Researchers completed 1-year follow-up in 67 patients out of 186 patients participating in a randomized controlled trial evaluating the effectiveness of a falls-prevention program. The program is designed for pharmacists to implement.

The most common medications prescribed to these patients include antidepressants, seizure medications, and painkillers. These medications depress the central nervous system and make patients less alert and slower to react. The authors of the study warned that some allergy medications, sleep aids, and cold and cough remedies can also affect central nervous system function.

Device Helps Lung Cancer Detection

A microchip-based device has been developed to detect and analyze circulating tumor cells in the bloodstream to determine the genetic signature of lung tumors. The device, developed by researchers at Massachusetts General Hospital and BioMEMS (BioMacroElectroMechanical Systems), has the potential to help oncologists evaluate the effectiveness of treatment in a patient, define prognostic and predictive measures, and examine the biology of blood-borne metastasis. Results of a pilot study of the device are published in the July 24 issue of the *New England Journal of Medicine*.

Low HDL Cholesterol Levels May Damage Memory

Low levels of high-density lipoprotein (HDL) cholesterol are associated with poor memory and decline in memory in middle-aged adults, according to researchers. The purpose of the study, published in *Arteriosclerosis, Thrombosis, and Vascular Biology*, was to examine the relationship between fasting serum lipids and short-term verbal memory in middle-aged adults.

Researchers measured the total cholesterol, HDL cholesterol, triglycerides, and memory in 3,673 male and female

participants of the Whitehall II study. These measurements were taken twice, at mean ages 55 and 61. Short-term memory was assessed using a list of 20 words. Logistic regression was used to model associations between ATP-3 categories of lipids and memory deficit (recall of four words or less) and decline (decrease of two or more words). Low HDL cholesterol (<40 mg/dL), compared with high HDL cholesterol (≥ 60 mg/dL), was associated with greater risk of memory deficit at the first and second measurement period. Decrease in HDL cholesterol levels over the 5-year follow-up period was associated with decline in memory.

Sunlight, Vitamin D Reduce Diabetes Risk in Children

A modest intake of vitamin D3 (1,000 IU/day) and 5 to 10 minutes of sunlight may reduce the risk of childhood type 1 diabetes, according to a study published online by *Diabetologia*. Researchers at the University of California, San Diego, analyzed type 1 diabetes incidence rates and found that populations living at or near the equator have lower rates of diabetes than populations at latitudes further from the equator where sunlight is less abundant. Exposure to the sun causes the skin to produce vitamin D, which is also available through food and supplements.

Google Provides Users with Health Resource

Google has released beta version of an online health record storage application called Google Health (www.google.com/health). The Web site allows users to store information regarding health conditions, medications, allergies, and lab results. In addition, users can import medical records from hospitals and pharmacies, obtain information about diseases, conditions, and medication interactions, and create a medical contacts list.

Personal information is protected by a privacy policy, the company said in a news release. Although Google plans to pool data to publish trends, the company stated that none of the data used to this end will personally identify an individual.

Partners in Google Health include Walgreens, Quest Diagnostics, Longs Drugs, the American Heart Association, the Cleveland Clinic, and CVS. ■

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