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The State of Physician-Assisted Suicide

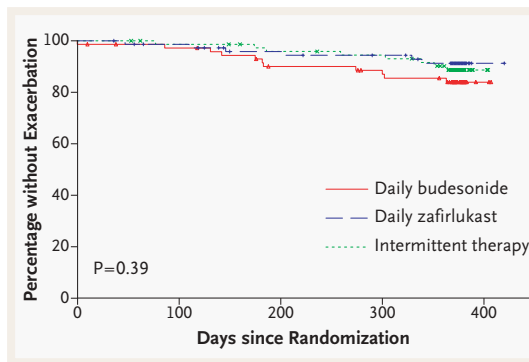


This Week in the Journal

APRIL 14, 2005

ORIGINAL ARTICLE

Daily versus As-Needed Therapy for Mild Persistent Asthma



Daily treatment with a controller medication is currently recommended for patients with mild persistent asthma. These investigators compared lung function and the number of episodes of asthma in the presence and absence of daily treatment with either an inhaled

corticosteroid or a leukotriene-receptor antagonist; all patients were instructed to initiate inhaled corticosteroid treatment should asthma symptoms arise. There were no significant differences among the groups in morning peak flow or the time to the first exacerbation of asthma.

Although not designed to show equivalence, these data lay the groundwork for a large trial to evaluate whether patients with mild persistent asthma can safely be treated only when they have symptoms.

SEE P. 1519; EDITORIAL, P. 1589; CME, P. 1621

ORIGINAL ARTICLE

**DNA Topoisomerase II
in Acute Promyelocytic Leukemia**

Formation of the chromosomal translocation t(15;17) was studied in cases of acute promyelocytic leukemia (APL) that developed after treatment of cancer with mitoxantrone, a topoisomerase II poison. In the presence of the drug, topoisomerase II damaged DNA in ways that caused breakpoint “hot spots” capable of forming t(15;17).

Drugs commonly used in cancer chemotherapy increase the rate of DNA cleavage by topoisomerase II or decrease rejoining of the two strands of DNA by the enzyme. Such drugs also increase susceptibility to APL. This article shows how a chemical attack on topoisomerase II causes the genetic changes of APL.

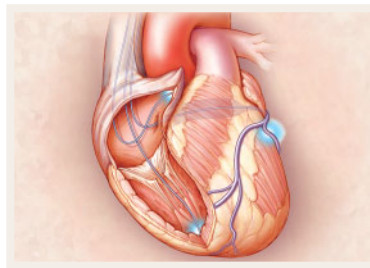
SEE P. 1529; EDITORIAL, P. 1591

ORIGINAL ARTICLE

**Effect of Cardiac Resynchronization
on Heart Failure**

Cardiac resynchronization improves left ventricular function and functional status in patients who have left ventricular systolic dysfunction and inter-ventricular dyssynchrony due to a conduction delay. In a randomized trial comparing medical therapy alone with medical therapy plus cardiac resynchronization, combined therapy was associated with a significant reduction in the risk of death from any cause.

SEE P. 1539; EDITORIAL, P. 1594



ORIGINAL ARTICLE

**Hyponatremia among Runners
in the Boston Marathon**

The development of hyponatremia during a marathon may have grave consequences. In this study of 488 runners in the 2002 Boston Marathon, 13 percent had hyponatremia, and 0.6 percent had critical hyponatremia (serum sodium concentration, <120 mmol per liter). Weight gain during the race, longer racing time, and body-mass-index extremes were associated with hyponatremia. Better efforts to monitor and regulate fluid balance may reduce the frequency of this largely preventable condition.

SEE P. 1550; PERSPECTIVE, P. 1516;
CME, P. 1622

BRIEF REPORT

**Genetic Modifier
of Human Hearing Loss**

This study implicates a variant of a gene encoding PMCA2, a plasma-membrane calcium pump, in the degree of severity of hearing loss caused by the mutation of another gene. The findings suggest that the mutant PMCA2 allele, which is carried by approximately 3 to 5 percent of persons of European descent, is a risk factor for presbycusis and noise-induced hearing loss. Studies to investigate this possibility are warranted.

SEE P. 1557; EDITORIAL, P. 1598

DRUG THERAPY

Effectiveness of Antimalarial Drugs

A global resurgence of malaria has taken place as a result of a lapse in preventive efforts and the emergence of resistance to standard antimalarial drugs. New therapies are available, but because of social, economic, and clinical factors, the use of older drugs persists. This review considers current approaches to the prevention and treatment of malaria.

SEE P. 1565; CME, P. 1623

CLINICAL IMPLICATIONS
OF BASIC RESEARCH**A Malaria Vaccine in the Mouse**

Deleting a gene critical to the development of *Plasmodium berghei* in the liver transforms the sporozoite — the infectious stage of the pathogen — into an organism that acts as a vaccine.

SEE P. 1600

CASE RECORDS OF THE
MASSACHUSETTS GENERAL HOSPITAL**Pregnant Woman with
an Abnormal-Karyotype Fetus**

A 32-year-old pregnant woman sought genetic counseling after her fetus had been found to have an abnormal karyotype. Ultrasonography for the evaluation of an ovarian cyst at 14 weeks of gestation showed increased fetal nuchal translucency; amniocentesis showed extra material on the short arm of fetal chromosome 18. The mother recalled a family history of birth defects. Diagnostic testing was performed, and the role of preimplantation genetic testing for future pregnancies was discussed.

SEE P. 1579