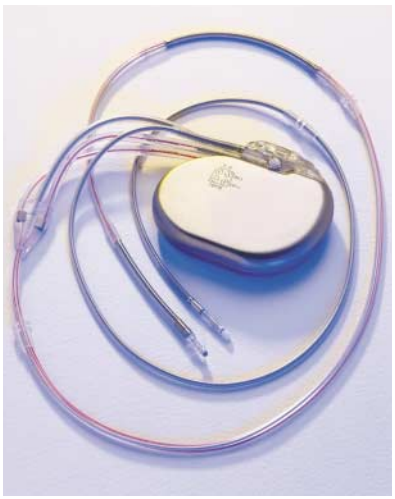
This Week in the Journal

March 21, 2002



Implantation of Defibrillators after Myocardial Infarction

Patients who have had a myocardial infarction resulting in a reduced left ventricular ejection fraction are at risk for ventricular arrhythmias and sudden death. In this large trial, patients were randomly assigned to receive an implantable defibrillator or conventional therapy. During the follow-up period, which lasted up to four years, the mortality rate was lower in the defibrillator group than in the conventional-therapy group (14.2 percent vs. 19.8 percent).

The clinical benefit of defibrillator therapy is convincing, and the implantation of a defibrillator should be considered as an alternative to antiarrhythmic drug therapy in patients similar to those in this study. However, widespread use of the approach will be very costly, and this matter must be addressed by manufacturers and insurers.

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"As compared with lidocaine, amiodarone leads to substantially higher rates of survival to hospital admission."

Amiodarone versus Lidocaine for Shock-Resistant Ventricular Fibrillation

Ventricular fibrillation is the most common cause of cardiac arrest outside the hospital. In cases resistant to defibrillation, lidocaine is often given as adjunctive antiarrhythmic therapy. This randomized, controlled clinical trial compared intravenous lidocaine with intravenous amiodarone, both administered by emergency-response personnel, and found that amiodarone was superior, resulting in increased survival to hospital admission.

Amiodarone, not lidocaine, should now be the drug of choice as adjunctive therapy for shock-resistant ventricular fibrillation. However, despite improved survival to hospital admission with amiodarone, survival to hospital discharge is still low.

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PERSPECTIVE

Specialized Care for Elderly Patients

Twenty-five years ago, the specialty of geriatrics barely existed in American medicine. There was, however, a growing awareness that increasing numbers of people in developed countries were living into their 80s and 90s. It is now clear that geriatric care can improve outcomes, though not as dramatically as some had hoped. Geriatrics has matured as a specialty. There are numerous training programs, and a certifying board examination has been given for over a decade. Most academic centers now include geriatricians who are involved in research on aging, teaching about clinical care of elderly patients, and delivering care to elderly patients. Geriatricians are also advocates for providing care that is tailored to meet the needs of older patients. Frail elderly patients with multiple medical problems may be overwhelmed by the complexities of our expensive, high-technology medical wizardry. Moreover, the benefits of medical interventions may be offset by loss of functional independence, complications from multiple medications, and simple discouragement, especially during hospitalization.

In some centers, the geriatric program is a consultation service for inpatients. In others, the program emphasizes outpatient assessment and the provision of primary care or home care. In still others, geriatricians have created specialized inpatient units, usually for elderly patients who have been transferred from other services because they are at risk for complications and functional deterioration. A major goal is to prevent or delay admission to a nursing home. Some geriatric programs primarily provide care for patients with dementia, and others focus on hospice care. Long-term care is an important part of all geriatric training programs, and some make it their chief focus, with the goal of developing leaders for the undervalued world of nursing home care. Most geriatric programs work in close collaboration with experts in geriatric psychiatry, and many programs also emphasize rehabilitation services for older patients.

In one way or another, all geriatric programs rely on interdisciplinary teams, with social workers, nurse specialists, physical therapists, occupational therapists, and geriatricians working together. These teams may also include other professionals, such as vision or hearing specialists, urologists, or chaplains. The aim is to try to put together a program that will help impaired elderly patients cope better with both their immediate problems and the threat of a precarious future.

All clinical geriatric programs are based on several assumptions. Aging is a poorly understood biologic process that affects the manifestations of disease and recovery from illness, but aging itself is neither a disease nor an indicator of inevitable deterioration. Interventions can modify risk factors, improve functioning, and increase the quality of life. Multiple medical conditions are the rule, not the exception, and new problems are often not recognized at first. Drug interactions and adverse reactions are common when multiple medications are prescribed for elderly patients. Older patients benefit from the recognition and treatment of depression and delirium, which are likely to develop especially during hospitalization or as a result of acute illness or loss.

Unlike most programs of clinical care, geriatric programs have been evaluated in many randomized, controlled trials. In this issue of the *Journal* (see pages 905–912), Cohen et al. report the results of a large, randomized trial conducted at 11 Veterans Affairs medical centers. A total of 1388 frail patients 65 years of age or older were assigned to receive care in a specialized inpatient geriatric unit or usual inpatient care, followed by care at a specialized outpatient clinic or usual outpatient care. As in several previous, smaller studies, the improvements in outcomes were mainly due to care in the inpatient geriatric unit, where extra days of rehabilitation-oriented care led to improvements in physical functioning and the quality of life. The total costs of specialized geriatric care were similar to those of usual care, and there were no significant differences in mortality, which was about 21 percent after one year in all four treatment groups.

The huge study by Cohen et al. came about largely because of an early trial of a geriatric evaluation unit in a Veterans Affairs hospital that was reported in the *Journal* 18 years ago (Rubenstein et al., 1984; 311:1664-70). The authors reported that the patients assigned to the specialized unit had a lower rate of nursing home placement and a 50 percent reduction in mortality as compared with the control group, in which the mortality rate at one year was 48 percent. Although these findings may have been the result of chance or deficiencies in the usual care that the control group received, geriatricians were welcomed with new enthusiasm after the publication of that report. For a while, there was a perception that geriatric care had some dramatic power, akin to the power of a high-technology intervention. With time, subsequent trials, and sober experience, it became clear that the benefits of geriatric care were not so dramatic. But as multiple studies have shown, older patients and their families do value such benefits as better physical functioning and control of pain. We could use more interventions that improve the quality of life with no increase in costs.

EDWARD W. CAMPION, M.D.

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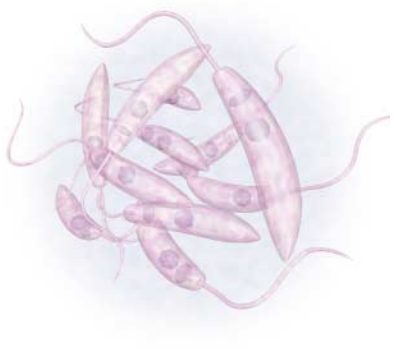

Fluconazole for the Treatment of Cutaneous Leishmaniasis

This randomized trial evaluated the efficacy of 200 mg of fluconazole taken orally every day for six weeks as a treatment for cutaneous leishmaniasis. There were follow-up data on 145 patients, and all the parasites isolated were confirmed to be *Leishmania major*. Three months after treatment ended, there was complete healing of the lesions in 79 percent of those in the fluconazole group, as compared with only 34 percent of those in the placebo group.

This double-blind study conducted in Saudi Arabia shows that fluconazole taken orally is a safe and effective treatment for cutaneous leishmaniasis. An effective oral agent is needed, since treatment with the pentavalent antimony compounds requires parenteral administration and often has major toxic effects.

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Bosentan for Pulmonary Hypertension

Endothelin-1, a potent vasoconstrictor and smooth-muscle mitogen, may have a role in the pathogenesis of pulmonary hypertension. The therapeutic efficacy of bosentan, an endothelin-receptor antagonist, was evaluated in this randomized clinical trial. Bosentan at a dose of 125 mg twice daily improved exercise capacity and functional class.

Pulmonary hypertension is a serious disorder with substantial morbidity and mortality. Current therapy includes anticoagulants, calcium-channel blockers, and epoprostenol or its derivatives. The use of endothelin-receptor antagonists for pulmonary hypertension represents a new approach that merits further exploration.

see page 896 (editorial, page 933)

"Total costs at one year were similar for the intervention and usual-care groups."

Geriatric Evaluation and Management

A total of 1388 hospitalized older patients were randomly assigned to receive care in an inpatient geriatric unit or a conventional inpatient unit and at an outpatient geriatric clinic or a conventional outpatient clinic. Neither geriatric intervention had an effect on mortality at one year, which was 21 percent overall. Care in the special inpatient unit was associated with improvements at the time of discharge in several measures of functioning and quality of life.

Nearly 20 years ago, a randomized study of patients who received care in an inpatient geriatric unit showed a large reduction in mortality, as compared with the rate among those who received usual care. This more recent, multicenter study of geriatric services provided by Veterans Affairs medical centers shows some improvements in functioning but no reduction in mortality with geriatric evaluation and management.

see page 905 (Perspective, page 874)

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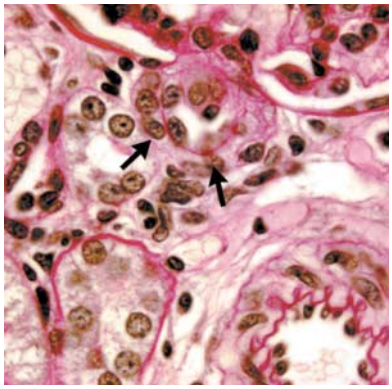

Mechanisms of Disease: **Subtle Acquired Renal Injury as a Mechanism of Salt-Sensitive Hypertension**

Salt sensitivity is present in about half of people with essential hypertension; decreasing salt intake ameliorates the hypertension. This review provides an explanation of how initially subtle renal injury promotes a tendency toward hypertension. The kidneys, initially normal in many persons with early primary hypertension, sustain subclinical injury over time, resulting in arteriolosclerosis and tubulointerstitial disease that lead to established hypertension.

Targets for future therapy might focus on reversing the arteriolar and tubulointerstitial injury that perpetuates salt-sensitive hypertension.

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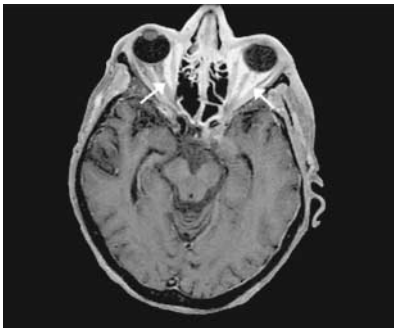

Case Records of the Massachusetts General Hospital

An 80-year-old woman had headache and severe pain in the left eye, followed by sudden complete blindness in the eye.

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"What we know about the harm of tobacco consumption — not political influence or campaign contributions — should guide U.S. actions in these public health negotiations."

Sounding Board: **The Future of the Global Tobacco Treaty Negotiations**

The tobacco business is a global enterprise that has caused a worldwide public health crisis — by the year 2020 an estimated 8.4 million people will succumb annually to tobacco-related diseases. This week's Sounding Board article discusses the ongoing response of the World Health Assembly of the World Health Organization to this crisis — to draft and adopt an international treaty called the Framework Convention on Tobacco Control, which aims to establish worldwide standards for tobacco control.

Provisions that will mandate appropriate taxes and labeling and that will control trade, passive smoking, and advertising are necessary to an effective treaty. The United States has a crucial role in negotiating this treaty, which will be ready for ratification by individual nations by 2003.

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