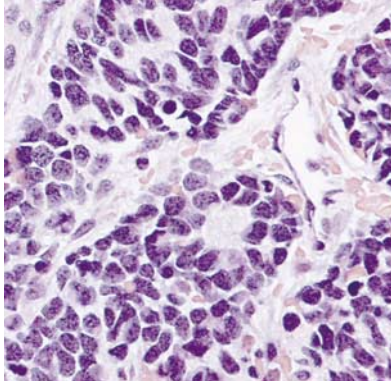




This Week in the Journal

April 4, 2002



Screening for Neuroblastoma

Neuroblastoma is the most common extracranial solid tumor in early childhood and can be identified in preclinical stages by detection of catecholamines in the urine. It is uncertain whether routine screening for neuroblastoma can reduce mortality due to this disease. In this study, parents of infants born in Quebec, Canada, during a five-year period (May 1989 through April 1994) were offered screening for neuroblastoma when the infants were three weeks and six months of age. After the initiation of screening, the cumulative childhood mortality from neuroblastoma over a nine-year period was no lower in the Quebec cohort than in several unscreened North American cohorts and was similar to that in Quebec before the screening program.

Screening infants for neuroblastoma does not appear to reduce mortality from this disease and is not warranted.

see page 1041 (editorial, page 1084)

“Screening for neuroblastoma . . . did not reduce the incidence of disseminated disease nor did it appear to reduce mortality.”

Neuroblastoma Screening at One Year of Age

To assess whether urine screening for neuroblastoma at one year of age reduces the incidence of disseminated disease and mortality from this type of tumor, the authors screened nearly 1.5 million children in six German states. As compared with the children in the other 10 German states, who served as controls, children in the screened group had a higher rate of diagnosis of neuroblastoma but no reduction in the incidence of stage 4 disease or mortality due to neuroblastoma.

Screening for neuroblastoma at one year of age is not warranted and may lead to unnecessary treatment of cases that would otherwise be expected to regress spontaneously.

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PERSPECTIVE

The Ethics of Partial-Liver Donation

Living donors have participated in solid-organ transplantation throughout the 48 years since Dr. Joseph Murray successfully performed kidney transplantation between identical twins. Kidney transplantation from living, unrelated donors is no longer unusual, and some centers allow for anonymous donors or for a donor swap in cases of biologic incompatibility. Surgical advances now permit each of two donors to provide a lobe of lung to a patient with end-stage lung disease from cystic fibrosis. In spite of these advances, it is still not clear exactly how safe it is to donate a large part of one's liver.

Altruism is characterized by an acceptance of personal loss or risk, and society benefits from altruistic behavior. The difficulty is in determining what amount of risk is acceptable for the liver-transplantation community and for the public, who make up the supply of altruistic donors. In this issue of the *Journal*, Trotter et al. review the currently emerging technique of transplanting the right hepatic lobe from a living donor to a patient with end-stage liver disease (see pages 1074–1082). The authors argue that the actual risk entailed by the donation of the right hepatic lobe for transplantation is not adequately documented. At present, there have been seven reported deaths among donors in the United States who have participated in all types of partial-liver donation. The incidence of death among right-lobe donors is probably 1 percent

or more — far higher than that for kidney donation, which has a mortality rate of 0.03 percent and a very low rate of serious complications. In two known cases, donors of a right hepatic lobe had to undergo liver transplantation themselves because they were left with insufficient liver volume.

The most recent donor to die in relation to partial-liver transplantation was a 57-year-old man who donated a lobe to his brother, a New York physician. The donor died three days after the operation, apparently of aspiration pneumonia. About 100 liver transplantations from living adult donors had been performed at the hospital, making it one of the highest-volume centers in the country. This tragic case places in stark relief the potential risk of partial-liver donation, even at a very experienced hospital.

Issues in Right-Hepatic-Lobe Donation

At its earliest stage, transplantation of part of a liver from a living donor was a response to the needs of children. Parents could donate segments of the left hepatic lobe and still be left with an adequate amount of liver tissue. The removal of a partial left lobe of the liver for donation is a more conservative surgical procedure than right-lobe removal, and an opportunity for widespread discussion within the medical community and among ethicists preceded its initiation. Right-lobe transplantation, in contrast, began without a similar opportunity for discussion. Transplantation of the right hepatic lobe has proceeded as if it were a simple extension of the earlier practice, though this is not the case. Clearly, thorough review and discussion are needed. Among the issues to be addressed are the appropriate age of donors, basic requirements for psychosocial evaluation of donors, the necessary skill and experience of the transplantation group, and

the prognosis of the recipient. The effect on the physical and emotional health of donors after donation must also be assessed. Chronic recurrent illnesses, such as hepatitis C infection, predominate among recipients and may be accompanied by other conditions that limit the quality of life and social functioning. There have been instances in which living-donor right-lobe liver transplantation was performed for a recipient with liver cancer that was too advanced to meet the criteria for cadaveric transplantation.

Balancing Risks and Benefits

Altruistic liver donors benefit from their participation and from seeing the improved health of recipients, but at what cost? The long-term effects of giving up as much as 60 percent of one's liver are unknown. Potential donors must have facts about their personal risk and about the prognosis of the recipient, delivered in a noncoercive manner. This is especially true because surgeons themselves are stakeholders in the process. The driving force is to save lives, but there is also the appeal of technical challenge and competition among centers to meet public demand. The enthusiasm of surgeons to undertake this procedure may be taken as tacit assurance for the donor that no harm will follow. The proposal by the American Society of Transplant Surgeons and the National Institutes of Health that a registry be established to collect needed information about risks to donors is highly appropriate. We need this information so we can make decisions that achieve a balance between individual choice and community interests with respect to living-donor liver transplantation.

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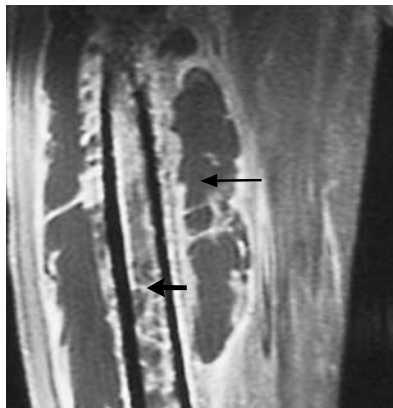
“Prophylactic colectomy remains the treatment of choice to prevent colorectal cancer in patients with familial adenomatous polyposis.”

Primary Chemoprevention of Familial Adenomatous Polyposis with Sulindac

Sulindac, a nonsteroidal antiinflammatory drug, can induce the regression of polyps in familial adenomatous polyposis, which is caused by a mutation in the adenomatous polyposis coli (*APC*) gene. This study investigated whether sulindac therapy could prevent the development of colonic polyps in young carriers of a pathogenic mutant *APC* gene who had no detectable adenomas. As compared with a placebo, sulindac had no influence on the number or size of new polyps.

The results of this double-blind, placebo-controlled trial are clear: in the doses used, sulindac did not prevent adenomas in carriers of the APC gene. Since colorectal cancer develops in almost all patients with familial adenomatous polyposis, colectomy is still the only proven prophylactic measure.

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Images in Clinical Medicine: Hematogenous Anaerobic Osteomyelitis

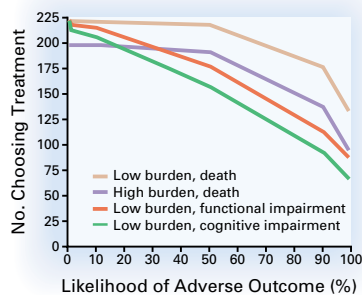
A 42-year-old man had a history of fever, weight loss, night sweats, and pain and swelling in the right arm and thigh. There was no history of trauma.

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Images in Clinical Medicine (Web Only): Porcelain Gallbladder

A 45-year-old woman was hospitalized with a seven-day history of fever and pain in the right upper abdomen.



Special Article: Understanding the Treatment Preferences of Seriously Ill Patients

A total of 226 patients 60 years of age or older who had a limited life expectancy were asked about their preferences with regard to treatment that could extend life. Eleven percent would not want the treatment if it carried a high burden. If the outcome were survival but with severe functional or cognitive impairment, many patients would not want the treatment, even if it were easy to tolerate.

Discussions about end-of-life care often focus on whether patients would want specific interventions. With the use of hypothetical scenarios, this study shows that patients' preferences are greatly affected by both the burden of an intervention and the likelihood of a severe adverse outcome other than death.

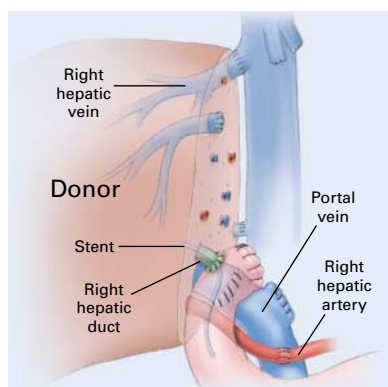
see page 1061 (editorial, page 1087)

“All commercial aircraft must carry an automated external defibrillator by April 2004.”

Current Concepts: Responding to In-Flight Medical Events

Physicians are often asked to provide assistance when symptoms develop in a passenger during a commercial flight. This Review Article identifies the most common problems that develop during air travel. The authors recommend ways to respond to such events and describe the resources that are available to physicians and flight crews while the aircraft is still airborne.

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Medical Progress: Living-Donor Liver Transplantation

The number of patients needing liver transplantation greatly exceeds the number of organs that can be obtained from cadavers. Living-donor liver transplantation has therefore received increasing attention. A total of 509 such procedures were performed in 2001. The procedure involves the transplantation of the right hepatic lobe of the donor into the recipient after the removal of the entire diseased liver. In coming years, the role of this procedure will be determined by weighing the risk to donors against the improvement in outcome for recipients.

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