



## Research Update

### Sooner better than later in heart repairs

A patient's chances of a potentially life-threatening arrhythmia increases the longer reparative surgery for an atrial septal defect is postponed, according to Canadian research published recently in the *New England Journal of Medicine* (1999;340:839-46).

The study involved 213 patients treated at the Toronto Hospital. Cardiologist Michael Gatzoulis and colleagues at the University of Toronto's Congenital Cardiac Centre for Adults found the age at which patients have the heart defect repaired is the single, greatest determinant of continued or new-onset atrial fibrillation or flutter.

The study's authors believe the findings should put to rest the long-standing debate over the relative benefits of subjecting asymptomatic patients with atrial septal defects (ASDs) to open-heart surgery. Although there's already considerable evidence of the benefits of repairing these defects in adults, the new study clearly shows there are real dangers in waiting for symptoms to appear before operating, says Gatzoulis.

"Delaying ASD closure is waiting for problems to arise," he says. "When signs of right heart enlargement are present, ASDs in adults should be closed — just as they are in children. Ours is the first study to provide clear data identifying high-risk adult patients."

Patients fare better, the research team found, if surgery is done before symptoms appear, and significantly better if they are operated on before age 40. Arrhythmias before surgery or immediately thereafter also were significant predictors of later arrhythmias.

The study looked at the incidence of and risk factors for atrial fibrillation and flutter in patients between the ages of 16 and 80 who had surgery between 1986 and 1997 to repair an ASD because of symptoms, evidence of significant left-to-right shunting, or both.

Within the study group, the 40 patients with sustained

arrhythmias before surgery were older and had higher pulmonary artery pressure than those who did not have atrial fibrillation or flutter before surgery. After an average follow-up of 4 years, 24 of these patients still had arrhythmias.

The other significant finding, says Gatzoulis, is that while patients over age 40 benefit from closure of ASDs, they're still at relatively high risk of stroke and should receive anticoagulation therapy if they have an arrhythmia. Researchers from the Toronto centre are coordinating a multicentre, international randomized trial that will assess the benefits of including a modified Cox/Maze procedure (to maintain sinus rhythm) when ASDs are repaired in high-risk patients. — © *Greg Basky*, Saskatoon

### What matters most to dying patients?

Policies on end-of-life care have traditionally overlooked the perspective on which they arguably should be focused — the patient's. However, a recent Canadian study (*JAMA* 1999;281:163-8) promises to change this.

A three-member study team, led by Dr. Peter Singer, Sun Life chair and director of the University of Toronto Joint Centre for Bioethics at the Toronto Hospital, analysed the transcripts of 126 interviews with patients receiving hemodialysis, people with HIV and residents of long-term-care facilities to find out what matters most to dying patients. The researchers learned that patients' concerns are simpler, more specific, and — because of their source — more authentic than the existing medical-expert models that have served as the basis for end-of-life care to date.

Patients identified 5 key areas of concern: they don't want to be kept alive past the point at which they can enjoy life, they want to strengthen relationships with loved ones, they want control over end-of-life decisions, they want to relieve the burden on loved ones and they want adequate pain and symptom management.

Singer, an internist, says the study provides a clinical approach to high-quality end-of-life care that is evidence based and grounded in the patient's perspective. "As a physician, I think we should take the quality of end-of-life care as seriously as the quality of care for other problems like heart failure. What was missing was a framework like [the ones] clinicians [can use] to address most other clinical problems, that give a clinical approach to the question: How should I approach this problem in practice?"

Besides serving as a bedside guide for providers, the study findings are being used to teach medical students and residents at the U of T and as the basis for a project involving all U of T teaching hospitals. Singer says his work also lays the foundation for future research on improving the quality of end-of-life care. "Quality means not only the proportion of patients on beta blockers after myocardial infarction, but also the satisfaction of families with the end-of-life experience of their loved ones." — © *Greg Basky*, Saskatoon

#### Research news

#### Gene pill cures peanut allergy in mice

Many food allergies — and especially peanut allergy — can be life threatening. In a new study, mice were immunized with an oral allergen gene produced from DNA nanoparticles before being given peanuts (*Nat Med* 1999;5:387-91). Treated mice showed a substantial reduction in peanut-induced anaphylaxis and reduced levels of IgE, histamine and vascular leakage. The authors believe that such a gene pill could help prevent allergic reactions in people with peanut allergy.

