Assist Devices Stabilize Patients Awaiting Heart Transplants

**BY MITCHEL L. ZOLER**
Philadelphia Bureau

Philadelphia — The bridge-to- transplant approach for stabilizing patients prior to heart transplantation is working. A scientific abstract presented at the annual meeting of the American College of Cardiology said at the annual meeting of the International Society for Heart and Lung Transplantation.

“The findings show, in a nonrandomized study, that you can get a lot of patients to [heart] transplant who otherwise wouldn’t have received the device,” said Dr. Hertz, professor of medicine at the University of Minnesota in Minneapolis, and medical director of the International Heart and Lung Transplant Registry. “The results of several studies have shown that patients who have a heart transplant after receiving a ventricular assist device can do better than patients who are transplanted with no device. It’s凭paradox, because the sickest patients get devices, but then they are stabilized and they can get physical rehabilitation and improved nutrition, and they become better candidates for heart transplantation a few months later. The bridging idea started as a last ditch effort for patients, but now it’s viewed as interim therapy,” Dr. Hertz said in an interview.

Starting in January 2002, the registry began a voluntary registry for submitting case reports for patients who received a mechanical circulatory support device, and as of Dec. 31, 2004, 699 patients were registered. They received a total of 831 devices at 60 centers worldwide. Follow-up data were available for 655 patients, including 513 who had received a device as a bridge to transplant and 78 patients who received a device as destination therapy. Also, 10 patients received a device after receiving a bridge with an unspecified purpose.

Among all patients who received a device, the actual survival rate was 83% after 1 month, 74% after 3 months, 67% after 6 months, and 50% after 1 year.

Survival was linked with age in patients who received a device as a bridge to transplant. Among 292 patients who were aged older than 50 years, mortality was 37% during the first year after they received the device. In contrast, among 52 patients aged younger than 30 years, first-year mortality was 13%, reported Dr. Hertz. A similar analysis was not reported for the remaining 169 patients who were aged 30-50 years.

The long-term prognosis for these patients was not good, especially among older patients. Of the 41 patients in the registry who received destination therapy and were at least 65 years old, 52% died within 6 months of receiving the device, and 74% died within 1 year. Among the 37 patients aged younger than 65 years, 13% died within 6 months and 39% were dead after 1 year.

BNP Better Than Guidelines at Guiding Heart Failure Treatment

**ORLANDO, Fla. — Using serial plasma B-type natriuretic peptide levels to guide medical therapy in patients with chronic heart failure significantly reduces heart failure–related deaths and hospitalizations, Patrick Jourdan, M.D., said at the annual meeting of the American College of Cardiology.**

Half of 220 patients in a 21-center French randomized trial received state-of-the-art, clinically guided medical therapy in addition to access with practice guidelines. The other half underwent monthly B-type natriuretic peptide (BNP) measurement for 3 months, then three times per year thereafter. The goal in the BNP group was to titrate doses of ACE inhibitors, β-blockers, and diuretics until plasma BNP dropped below 100 pg/mL.

During a median 15 months of follow-up there were three heart failure–related deaths in the BNP group and nine among the clinically managed patients. The primary composite end point in the uncompensated trial—heart failure–related death or hospitalization for heart failure—occurred in 25 patients in the BNP arm and 57 in the control group. This translates to a highly significant 54% reduction in relative risk when BNP was used to optimize medical management, noted Dr. Jourdan of Hôpital Rene Dubos, Pointoise, France.

—Bruce Jancin

Men Are More Likely Than Women to Receive Defibrillators for Heart Failure

**BY SHARON WORCESTER**
Tallahassee Bureau

**ORLANDO, Fla. — Men with heart failure and/or bundle branch block are preferentially treated more aggressively with implantable devices than are women with similar health status, a review of nearly 11,000 cases suggests.**

The 10,931 patients, of whom 4,138 (38%) were women, were listed in an administrative database and represented consecutive admissions to any of numerous hospitals owned by Hospit al Corporation of America in the United States. All had a diag nosis of heart failure, bundle branch block, or both, and underwent a primary procedure of pacemaker, cardiac resynchronization therapy pacemaker (CRT-P), implantable cardioverter defibrillator (ICD), or cardiac resynchronization therapy-defibrillator (CRT-D) implantation.

But many patients who are at least 60 years old can often beneﬁt from a left ventricular assist device, Peer M. Portner, Ph.D., said at the annual meeting of the International Society for Heart and Lung Transplantation.

“Age is likely a surrogate mark er for comorbid conditions at the time of valuation of the left ventricular assist systems [LVAS] can produce a strong survival benefit, even in the oldest patients. This underscores the importance of patient selection for destination therapy,” said Dr. Portner, of the department of cardiothoracic surgery at Stanford University in Palo Alto, Calif., and developer of the Novacor LVAS.

“We have an idea of which pa tients will do better, but it’s hard to collect the data that could help” identify the patients who will have the best outcomes after receiving an LVAS, he said. The analysis reported by Dr. Portner came from a registry of patients who received the Nova cor LVAS in 1984-2003. During that period, 1,461 patients received the device at 98 centers worldwide. This analysis excluded 70 patients who received the device as destination therapy and 26 patients with inadequate follow-up data, which left 1,365 patients who received the device as a bridge to transplant. The average period of implantation prior to receiving a bridge to transplant was 144 days for the entire group, but today the average pe riod during which the implant is in place is 60 days.

Outcomes data were analyzed by the patients’ age, and the database was divided into four groups that had similar numbers of patients: those aged 12-59 years (316 patients, aged 40-49 years (353), aged 50-59 years (451), and at least 60 years (245).

A logistic regression analysis showed that death with the first device was directly linked to age. Patients in the youngest subgroup (aged 12-39 years) had a 2.4-fold increased risk of death compared with other patients. In contrast, the youngest patients (younger than 40) had a 10% lower risk of death compared with the other patients. The two intermediate age groups had mortality risks between these two extremes.

Expressed another way, the survival rate at 1 year was 75% in patients younger than 40, 70% in those aged 40-49 years, 60% in patients aged 50-59 years, and 40% in those aged at least 60 years. Although mortality was high in older patients, the data also showed that a significant number of older patients could survive beyond 1 year on a LVAS.

“It’s unfortunate that we’re stuck in the United States with having a separate indication for destination therapy,” said Dr. Portner. “The decision on the ultimate outcome of a recipient of an assist device should depend on how they progress.”