FDA Panel Nixes Mesh Cardiac Support Device

BY RICHARD A. PIZZI
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GAITHERSBURG — By a vote of 9-4, the Food and Drug Administration's Circulatory Systems Devices Panel decided not to recommend the CorCap cardiac support device for approval, citing concerns about missing end point data and uncertainty about the device's effectiveness.

The cardiac support device (CSD), made by Acorn Cardiovascular Inc., is a polyester mesh wrap that is implanted around both ventricles of the heart to stop cardiac enlargement caused by heart failure. It is intended to improve the heart's function by providing beneficial changes in cardiac structure and a decrease in the need for major cardiac procedures. Acorn also claimed that patient quality of life would be improved significantly.

Acorn presented data from a prospective, randomized, controlled trial of 300 heart failure patients. The 193 patients in whom mitral valve repair or replacement was indicated were randomized to undergo surgery with (91) or without (102) CSD placement. The remaining 107 patients were randomized to undergo a thoracotomy for placement of the Acorn device and continued medical therapy (57) medical therapy alone (50).

The primary end point was a composite of survival, the need for additional major cardiac procedures, and change in New York Heart Association (NYHA) classification. Of patients treated with CorCap, 38% improved, compared with 27% of control patients. Additionally, 25% of CorCap recipients remained the same, compared with 28% of patients in the control group. A total of 37% of CorCap recipients were reported to have worsened, compared with 45% of control group patients.

The FDA questioned both the company's statistical analysis and CorCap's clinical efficacy. FDA statistician Laura Thompson, Ph.D., raised concerns that more than a third of patients were missing primary end point measurements, and more than half were missing appropriate baseline NYHA class data. FDA consultant Ileana L. Piña, M.D., professor of medicine at Case Western Reserve University, Cleveland, also highlighted the missing data and pointed out that the only component of the primary end point that was significant was that of major cardiac procedures; there were no significant differences between the CorCap group and the controls in mortality or rehospitalization.

Citing these concerns, the committee voted against approving the device. The FDA usually follows the recommendations of its advisory panels, but is under no statutory obligation to do so. ■

Mild, Moderate CAD No Barrier To Lung Transplantation

BY MITCHEL L. ZOLER
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PHILADELPHIA — Patients with mild or moderate coronary artery disease can safely undergo lung transplantation, according to a review of more than 200 patients at Washington University in St. Louis.

In this series, the incidence of perioperative death, long-term death, and long-term cardiac morbidity was similar between patients with mild or moderate CAD and those with no detectable disease, Cliff K.C. Choong, M.B., said at the annual meeting of the International Society for Heart and Lung Transplantation.

Thirteen of the 177 patients with no CAD died while they were hospitalized for transplantation, compared with none of the 33 patients with CAD.

Most U.S. transplant centers do lung transplantation in patients with mild or moderate CAD, but this is the first report to document that this approach is okay, said Dr. Choong, who is now a cardiothoracic surgeon at Papworth Hospital, Cambridge, England.

Patients with severe CAD—at least one coronary artery stenosis of 50% or greater—would require revascularization before undergoing lung transplantation, Dr. Choong told this newspaper. This should only be an option if the CAD is discrete, if left ventricular function is normal, and if the coronary anatomy is suitable for revascularization. If feasible, it should be done during the lung transplant surgery, preferably with stents, because coronary artery bypass surgery during lung transplantation requires more complex surgery that takes substantially more time, he said.

The study reviewed all 268 adults who had lung transplantation surgery at Washington University during June 1998-June 2003. Patients were excluded if they had sever CAD (3) or if they didn't undergo coronary angiography before transplant (55).

At the university, lung transplant candidates undergo routine coronary angiography if they are at least 45 years old, regardless any history or symptoms of CAD. Younger patients have angiography only if they also have risk factors for CAD.

Of the 210 patients, 177 had no evidence of CAD, 16 patients had mild CAD (coronary stenosis of less than 30%), and 17 had moderate CAD (stenosis of 30%-50%).

Thirteen of the 177 patients with no CAD died while they were hospitalized for their transplantation, compared with none of the 33 patients with CAD, he said. During an average follow-up of about 2 years, mortality was 23% in the patients without CAD and 27% in those with CAD. ■

LV Dysfunction a Marker for Poor Outcomes After Heart Transplant

BY MITCHEL L. ZOLER
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PHILADELPHIA — Left ventricular dysfunction is a powerful predictor of poor outcome in patients who have received a heart transplant.

During 13 years of follow-up of almost 19,000 patients with transplanted hearts, the cumulative rate of left ventricular (LV) dysfunction (ejection fraction of 40% or less) was 23%, Katherine Lietz, M.D., reported at the annual meeting of the International Society for Heart and Lung Transplantation.

The increased risk of death associated with left ventricular dysfunction was proportional to the severity of the dysfunction.

In heart transplant patients with LV dysfunction, the relative risk of cardiac death was 2.65-fold higher than the risk in those without LV dysfunction. The risk of noncardiac death in patients with impaired LV function was almost twice that of controls, due mostly to renal dysfunction that was secondary to heart failure, said Dr. Lietz, a cardiologist at the University of Minnesota in Minneapolis.

The study used data from the U.S. Scientific Registry of Transplant Recipients for heart transplants done during 1990-2003 on 25,719 patients. Exclusion of patients who were lost to follow-up or did not survive for at least 1 year left a study group of 18,854 patients, who were followed until they died, until their transplanted hearts failed, or through May 2004.

Aside from the patients who developed heart failure, LV function stayed fairly constant through follow-up, which lasted up to 13 years. The average LV ejection fraction (EF) for the entire group was about 59% after 1 year of follow-up and 57% after 13 years. Development of heart failure occurred at a fairly constant rate, occurring in about 2% of patients a year.

The two most powerful risk factors for LV dysfunction were coronary vasculopathy and renal dysfunction; each more than doubled the risk. Other significant risk factors were African American race, which raised the risk by 89%; need for retransplantation (67%); and acute rejection (65%).

The prevalence of vasculopathy was 34% in patients with an EF of more than 40%. Among those with lower EFs, the prevalence was 57%.

The increased risk of death associated with LV dysfunction was proportional to the severity of the dysfunction. Patients with EFs of 45%-55% had a 25% higher risk of death than did patients with EFs of more than 65%. The mortality risk was 57% higher in patients with EFs of 35%-45%, and was 2.6-fold higher in those with EFs of less than 35%. ■

More Older Patients Are Getting New Hearts, Lungs

PHILADELPHIA — Heart and lung transplants are increasingly for older patients, on the basis of data collected in the International Heart and Lung Transplant Registry.

During 1999-2003, the most recent period with available registry data, patients aged at least 60 years made up about 25% of all patients who underwent heart transplants, up from about 15% a decade earlier, Marshall I. Hertz, M.D., reported at the annual meeting of the International Society for Heart and Lung Transplantation.

The rise in transplants in elderly patients was matched by an almost identical drop in patients aged 40-49 years, from about 23% of the total in 1989-1993 to about 15% in 1999-2003. The percentage of transplants done in patients aged 50-59, held steady at about 33% of the total, reported Dr. Hertz, professor of medicine at the University of Minnesota, Minneapolis, and medical director of the transplant registry.

A similar trend existed for lung transplantations. During 1997-2004, about 15% of all lung transplants were in patients aged 60-64, up from about 8% of the total in 1985-1996. Another clear increase was in patients aged 65 and older, rising from about 2% of all lung transplants in 1985-1996 to about 4% in the most recent period. In contrast, the percentage of transplants fell in all adult patients younger than 55. The biggest drop was in patients aged 45-49, where the figure sank from about 15% of all transplants in the earlier years to about 10% of all lung transplants in 1997-2003.

These trends reflect the "greater comfort" physicians have in transplanting older patients, Dr. Hertz told this newspaper. The rise in heart transplants in older patients has also been triggered by an increased prevalence of heart failure. But the registry data also confirm that survival following transplantation of either a heart or a lung is worse in older patients, Dr. Hertz said.

—Mitchel L. Zoler