

Catheter Ablation Called Best Tx for Atrial Flutter

BY BRUCE JANCIN
Denver Bureau

NEW ORLEANS — Catheter ablation of atrial flutter is both more effective and less costly than traditional management by cardioversion plus antiarrhythmic drug therapy, Byron K. Lee, M.D., said at the annual meeting of the Heart Rhythm Society.

"From our data, we conclude that it's time to make atrial flutter ablation therapy the first-line treatment," said Dr. Lee of the University of California, San Francisco.

An estimated 200,000 Americans per year develop new-onset atrial flutter. Catheter ablation has already been shown to reduce the need for hospitalization, improve quality of life, and decrease the occurrence of atrial fibrillation.

However, it has not universally been considered first-line therapy, particularly at smaller hospitals without an electrophysiology laboratory, he noted.

To study the incremental cost-effectiveness of catheter ablation, compared with cardioversion and antiarrhythmic drug therapy, Dr. Lee and his coinvestigators performed a Markov model decision analysis involving a hypothetical cohort of 10,000 patients with typical isthmus-dependent atrial flutter.

Into the model they plugged treatment

efficacy data derived from a literature search that supported a 1-year ablation success rate of 95% and a predicted cardioversion success rate of 58% at 1 month.

Costs were estimated using Medicare 2004 reimbursement data. Key costs included roughly \$9,500 for ablation, \$1,200 for cardioversion, \$109 per month for antiarrhythmic agents, \$2,600 per hospitalization for cardioversion, and \$4,700 per ablation-related adverse event, with a 3% probability of such a complication.

Ablation remained the more expensive strategy at the 1-year mark due to its greater initial costs. Between years 2 and 3 of follow-up, however, catheter ablation became the less costly approach. At that point it became less expensive and more effective than cardioversion and antiarrhythmic drugs.

The cumulative average total costs after 5 years were estimated to be \$12,920 for ablation and \$24,280 for cardioversion and drugs.

Ablation resulted in an average gain of 3.57 quality-adjusted life-years, compared with 2.93 for shock and drugs.

At 1 year the cost-effectiveness of catheter ablation worked out to \$48,000 per quality-adjusted life year, which falls within what health economists define as cost-effective therapy, Dr. Lee said. ■

Amiodarone Reduces Post-Op Atrial Fibrillation, Study Says

BY MITCHEL L. ZOLER
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NEW YORK — Intraoperative and postoperative treatment with amiodarone was associated with a significantly lower incidence of atrial fibrillation in patients undergoing cardiac surgery, in a comparison of case series with a total of more than 1,000 patients.

And among patients who developed atrial fibrillation despite amiodarone treatment, their length of hospital stay for atrial fibrillation was significantly reduced, Keith B. Allen, M.D., and his associates reported in a poster at the annual meeting of the International Society for Minimally Invasive Cardiothoracic Surgery.

The study compared the atrial fibrillation outcomes of 476 consecutive patients who underwent cardiac surgery in Indianapolis from July to December 2002 without amiodarone treatment, as well as a total of 592 consecutive patients who underwent cardiac surgery with amiodarone treatment from January to June 2003.

Aside from the amiodarone treatment, all the other facets of the patients' medical and surgical care were the same, according to the report's authors, who were led by Dr. Allen, a cardiothoracic surgeon at St. Vincent's Medical Center in Indianapolis.

The amiodarone regimen began with an intraoperative dose of 150 mg administered intravenously. Treatment continued postoperatively until hospital discharge with a 200 mg oral dose administered t.i.d.

All of the patients also received metoprolol postoperatively, as well as magnesium sulfate during and after their surgery.

During the postoperative period, 29% of patients who had surgery without amiodarone developed atrial fibrillation, compared with 16% of patients who received amiodarone, a 45% relative cut in the atrial fibrillation rate that was statistically significant.

A second analysis looked at the average duration of hospitalization for atrial fibrillation in those patients who had this complication.

The mean length of stay was 13.1 days among those who did not receive prophylactic amiodarone, and 9.4 days among patients who received the drug, a difference that was just short of statistical significance.

In a multivariate analysis that adjusted for baseline clinical and demographic differences between the two groups of patients, routine use of prophylactic amiodarone was associated with a statistically significant, 35% cut in the incidence of atrial fibrillation, Dr. Allen and his associates said. ■

Radiofrequency, Cryoablation Results Similar for Atrial Fib

BY MITCHEL L. ZOLER
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NEW YORK — Radiofrequency ablation and cryoablation had similar efficacy and safety for treating atrial fibrillation with a modified maze procedure in a randomized, controlled study in 50 patients.

This is among the first reported studies to compare two ablation methods for treating atrial fibrillation, Piotr Suwalski, M.D., said at the annual meeting of the International Society for Minimally Invasive Cardiothoracic Surgery.

The results suggest that the two technologies are similar, although the study would have been more definitive if it had involved a larger number of patients, commented Ralph J. Damiano Jr., M.D., chief of cardiac surgery at Washington University, St. Louis.

From January 2003 to January 2004, 50 consecutive patients with atrial fibrillation who also required mitral valve surgery were randomized to either of two ablation methods.

The 26 patients who underwent the cryoablation procedure were treated with a liquid nitrogen-cooled device that was designed and built by Dr. Suwalski and his associates at the Medical Uni-

versity of Warsaw. The 24 patients randomized to radiofrequency ablation were treated with an irrigated radiofrequency device that was manufactured by Medtronic Inc.

The two groups of patients were well matched for demographic and clinical features.

The average durations of cardiopulmonary bypass, cross-clamp time, and ablation treatment were also very similar between the two groups.

The modified maze procedure took a mean of 18 minutes in the cryoablation group and 14 minutes in the radiofrequency group, said Dr. Suwalski, a cardiac surgeon at the Medical University of Warsaw.

The two groups also had virtually identical averages for time of intensive care hospitalization and total hospitalization time. There was one death in each group but no other major adverse coronary events or cerebrovascular events.

At 3 months after surgery, 72% of patients in the cryoablation group and 80% in the radiofrequency ablation group were in sinus rhythm.

One year after surgery, the prevalence of sinus rhythm was 75% and 82%, respectively, in the cryoablation and radiofrequency ablation groups. ■

Pregnancy, Postpartum Not Risky Times For Women With Long QT Syndrome

BY BRUCE JANCIN
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ORLANDO — Pregnancy and postpartum are not especially high-risk periods for cardiac events in women with long QT syndrome, G. Michael Vincent, M.D., reported at the annual meeting of the American College of Cardiology.

Indeed, cardiac event rates—sudden death, syncope, and aborted cardiac arrest—are highest in women with long QT syndrome (LQTS) in the periods prior to first pregnancy and during the nonpregnant portion of the childbearing years, according to Dr. Vincent of LDS Hospital and the University of Utah, Salt Lake City.

These findings from a unique database housed at LDS Hospital are at odds with an earlier report by other investigators, who reported that the postpartum period in women with LQTS was associated with a 41-fold increased rate of cardiac events (*Circulation* 1998;97:451-6).

That report was based on data from nongenotyped probands in the International LQTS Registry. Probands are almost always the most symptomatic members of LQTS families, and they are not representative of the LQTS population as a whole, he argued.

In contrast, the 32-year-old LDS Hospital database contains 367 LQTS families

whose pedigrees have been expanded to include 6,268 members. Most have been systematically screened for LQTS, and since 1992, many have been genotyped. This database thus includes unaffected family members, as well as others encompassing the full spectrum of the LQTS phenotype, rendering the Utah data singularly applicable to the broad population of LQTS women.

For this analysis Dr. Vincent reported on 255 women with 747 term pregnancies. They came from 120 LQTS families. The combined cardiac event rate during pregnancy was 3.1%.

The event rate in the postpartum period—defined as the 9 months after delivery—was 3.5%. In contrast, 23.9% of the women experienced a cardiac event while not pregnant but in their childbearing years, as defined by the interval from their first pregnancy to last postpartum period.

Prior to their first pregnancy, 23.5% of subjects experienced a cardiac event, as did 2.4% after their final postpartum period.

No sudden cardiac deaths occurred during pregnancy. There were four postpartum: three among 46 women with the LQT2 genotype, compared with just one of 101 LQT1 women. Most cardiac events in LQT1 women occurred prior to the childbearing years. ■