Mercy Heart & Vascular Institute

CARDIAC MONITOR

For healthcare professionals

Fall/Winter 2007

Current surgical therapy for atrial fibrillation

By Richard J. Kaplon MD, FACS, FACC, FCCP, Mercy Heart & Vascular Institute

Atrial fibrillation (AF) affects approximately 2.2 million Americans, representing the most common arrhythmia seen in the general population. More than 160,000 people are diagnosed with AF each year, with people age 60 and over affected more often.

Risk factors for developing AF include age, high blood pressure, diabetes, heart attack, valve disease, congestive heart failure, hyperthyroidism and lung disease. In addition, AF may be caused by reversible conditions such as electrolyte imbalances, caffeine, low blood oxygen level or infection. Post-cardiac surgery, the incidence of AF may be as high as 40%.

Health problems associated with AF can be very significant. Patients with AF have an increased risk of death and stroke, especially among those older than 65 years with other heart disease. Rapid heart rates may also lead to congestive heart failure (CHF). In addition, patients with AF commonly have palpitations, fatigue, shortness of breath, chest pain and fainting.

There are three types of AF. **Paroxysmal AF** comes and goes with the patient having a normal rhythm between episodes of AF. **Persistent AF** must be treated to convert to a normal rhythm. **Permanent AF** will not convert to a normal rhythm despite therapy.

Treatment of AF has historically focused on either controlling the heart rate or converting the AF to a normal rhythm. Patients with a new AF diagnosis, persistent AF or with contra-indications to the medical therapy of AF, including anti-coagulation, are likely to respond well to treatment to restore a normal rhythm. Normal rhythm can be restored with either a catheter-based ablation or surgery.

Catheter-based and surgical treatments

Catheter-based ablations use special catheters to identify and "ablate" or burn the areas of the heart causing the AF stimulus. The success rate for catheter ablations ranges between 49% and 86%. Some patients do experience a recurrence of their AF.

Surgical therapy has evolved over time. Initially, James Cox, MD, developed a procedure call the Cox Maze III. In this procedure, performed during open heart surgery, aberrant pathways were "cut and sewn" in a specific pattern to control the rhythm. Cox reported success rates of more than 95% for patients undergoing the classic "cut-and-sew" Cox Maze III procedure, but the difficulty of the procedure prevented it from gaining wide acceptance among surgeons. Recent advances using various ablation devices have allowed surgeons to create the same effect without a "cut and sew" technique. With this strategy, the "modified" Cox Maze III is now being used more widely, typically in conjunction with coronary bypass grafting or valve replacement or repair, with excellent success rates of approximately 94%.

Endoscopic treatment

While the modified maze approach to surgically correcting AF has proved successful for patients undergoing bypass or valve surgery, opening the chest cavity through the sternum (sternotomy) with cardiopulmonary bypass is still felt to be too invasive for the majority of patients with isolated AF. Thus, endoscopic approaches have been developed in recent years to avoid the need to perform a sternotomy.

continued on page 3

Vision Statement

In conjunction with the Sisters of Mercy, our cardiovascular care team is dedicated to providing patients with compassionate, quality, cost-effective care through state-of-the art advancements in research, diagnostic screening, surgical and interventional procedures, clinical education and preventive/wellness programs for the improvement of cardiovascular health.

Cardiac Monitor — a resource for you

Distribution of *Cardiac Monitor* is intended for cardiologists and primary care physicians. The information included in this newsletter is provided as an educational service. Mercy Heart Institute respects your privacy. If you prefer not to receive any further communications from us, please send a brief note to Candice Brooks, Mercy Heart Institute, 3939 J Street, Suite 220, Sacramento, CA 95819, and include the mailing label from this newsletter if possible. It may take up to 30 days to process your request.

CARDIOLOGY AND PRIMARY CARE

New era in heart failure management with CHAMP® program

By James Palmieri, PharmD, Clinical Pharmacy Specialist, Cardiovascular Disease Management

The Mercy Heart & Vascular Institute is excited to introduce a new standardized procedure designed to optimize the use of beta blockers (BB) and angiotensin converting enzyme inhibitors/angiotensin receptor blockers (ACE-I/ARB) in selected patients referred to CHAMP® — Mercy's heart failure disease management program. Supported by physicians from cardiology, cardiac surgery, electrophysiology and the Mercy Medical Group, the standardized procedure is used when enrolled patients are candidates for upward titration of these medications toward doses considered to be optimum for treating heart failure.

The multidisciplinary CHAMP® team is comprised of medicine, nursing, pharmacy, dietary and social services staff who provide education, support and clinical follow-up to patients with heart failure. There are currently more than 550 patients enrolled in CHAMP®. Since 1997, specially trained CHAMP® registered nurses have been providing education and management to enrolled patients. This includes both lifestyle education and adjustment of diuretic and potassium therapies. Under the new standardized procedure, these nurses have undergone further training in the use of BBs and ACE-I/ARBs and will identify potential patient candidates. With the authorization of the patient's primary care physician and following an approved titration algorithm, the nurses will use telephone surveillance to monitor these patients as they increase the medications toward their target doses.

BB and ACE-I/ARB therapies are an extremely important component of the care of heart failure patients. They are integral in slowing progression, reversing damage and ameliorating symptoms of heart failure, while improving the patient's quality of life. The most recent American College of Cardiology/American Heart Association guidelines for the diagnosis and management of chronic heart failure in adults, published in 2005, offer as a Class I recommendation that both BB and ACE-I be used (ARB if ACE-I-intolerant) in all patients with cardiac structural abnormalities or remodeling, with or without heart failure symptoms.

The first goal of therapy is for the patient to be treated with these medications irrespective of dose. However, it is further recommended that the doses be increased to those shown in clinical trials to reduce the risk of cardiovascular events, if increases can be tolerated. The treatment algorithm specified in the CHAMP® standardized procedure outlines the specific clinical conditions under which the medication doses may be increased. CHAMP® nurses will use a combination of laboratory results, physical findings and patient-reported symptoms to guide the decision of whether to initiate dose increases.

The decision to initiate these medications remains with the patient's primary care physician and cardiologist. Once initiated, however, physician authorization of the standardized procedure allows the nurse to increase the dose of each medication toward the optimal target. It is felt that the use of CHAMP® by primary care physicians will free office time for care that is less routine.

The implementation of the standardized procedure began with the first patient in October. After two successive dose titrations, the patient is tolerating the procedure without complaint and is enjoying being part of a new era in heart failure management for the Mercy Heart & Vascular Institute and CHAMP®.

Referral Resources

Physicians may refer a patient to Mercy Heart & Vascular Institute's Cardiovascular Disease Management program for help managing heart disease. Call (916) 564-2880 for more information about any of the following programs:

CHAMP®, Heart Smart, Anticoagulation Clinic, Smoking Cessation, Mercy Mall Walk, ICD Support Group, Mended Hearts Support Group.

PHARMACY CORNER

'Window of Opportunity' for hormone replacement therapy and cardiovascular disease

By Elaine Baker, Pharmacy Student, University of the Pacific

Use of hormone replacement therapy (HRT) in preventing coronary heart disease has largely been discouraged since the publication of the Women's Health Initiative (WHI) trial in 2002. The 2007 update to the *American Heart Association (AHA) Guidelines for Cardiovascular Disease Prevention in Women* solidifies the stance that HRT should not be used for primary or secondary prevention of cardiovascular disease. However, subsequent publications have suggested a "window of opportunity" when HRT consisting of either conjugate equine estrogens (CEE) or CEE plus medroxyprogesterone is initiated early in perimenopausal women. Two new trials are also under way to investigate the age-relationship use of HRT.

A new look at stratified data from the WHI has shown that, though statistically non-significant, women who initiated hormone therapy closer to menopause tended to have reduced risk of coronary heart disease compared with the increase in risk among women taking HRT further past menopause. Another analysis showed that women age 50-59 had less calcified-plaque burden in the estrogen arm vs. the placebo arm.

New studies are in progress to evaluate the age-relationship of estrogen therapy on coronary heart disease as well as the evaluation of transdermal estrogen therapy compared to oral therapy in perimenopausal women. The ELITE trial is a randomized, placebo-controlled study to assess estrogen therapy in women who have been post-menopausal for less than six years, compared to women who have been postmenopausal for 10 years or longer. The KEEPS trial, also a randomized, placebo-controlled study, seeks to determine the effectiveness of transdermal estrogen on recently menopausal women.

Despite the anticipation of new information from the ELITE and KEEPS trials, the AHA guidelines hold that estrogen therapy should not be initiated or continued for the purpose of preventing cardiovascular disease. With current evidence, the increased risk of stroke and breast cancer offset the possible benefit of HRT for uses other than the treatment of menopausal symptoms. While we wait for further clarification, the recommendation remains to use HRT for this purpose only, and at the lowest dose and for the shortest duration needed.

Current surgical therapy for atrial fibrillation

continued from page 1

Instead, special instruments, endoscopes and smaller incisions between the ribs (thoracotomy) have allowed surgeons to reach the anatomical "trigger" points on the heart for AF in a less invasive manner. Studies have shown success rates of up to 87.5% in patients with paroxysmal or persistent AF, and overall success, including patients with permanent AF, was found in 75% of patients.

At Mercy General Hospital, the cardiac surgeons perform a variety of procedures to treat AF, depending upon the patient's specific needs. Endoscopic procedures to treat AF, using video-assisted thoracic surgery (VATS) with mini-thoracotomy incisions have been performed. While this operation appears to have excellent early outcomes among patients with pre-operative paroxysmal or persistent AF, it may be limited in its effect for patients with permanent AF. Accordingly, MGH is now one of two centers nationally investigating a novel technology applying ablation to the surface of the heart via an upper abdominal incision to create a full Cox Maze III pattern. Early results with this approach, particularly for patients with permanent AF, have been promising.

For a complete list of article resources, please call (916) 733-6966.

RESEARCH NEWS

Mercy participates in successful trial

Study results for the AMIHOT II trial were recently presented at a late-breaking session at the 19th Annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium in Washington, D.C., in October. Mercy Heart & Vascular Institute's research department participated in this pivotal study, which involved enrolling patients who were undergoing an acute anterior MI who presented to the hospital within six hours of symptom onset. The patients were randomized to receive primary percutaneous coronary intervention (PCI) with or without SuperOxygenation therapy.

AMIHOT II showed superiority in the adjunctive administration of SuperOxygenation therapy over the current AMI standard of care alone — available drug regimens along with urgent PCI — by demonstrating a significant reduction in infarct size for patients treated within six hours from symptom onset for anterior MI. Reducing infarct size has been shown to improve heart function and patient outcomes, including mortality and quality of life.

This new therapy will provide interventional cardiologists with the first treatment option that addresses myocardial salvage intervention for acute heart attack patients. The study sponsor plans to apply to the FDA for approval for this device in the treatment of AMI patients.

Mercy Heart Institute
1-877-9HEART9
www.CHWhealth.org/MercyHeart

Mark Your Calendar

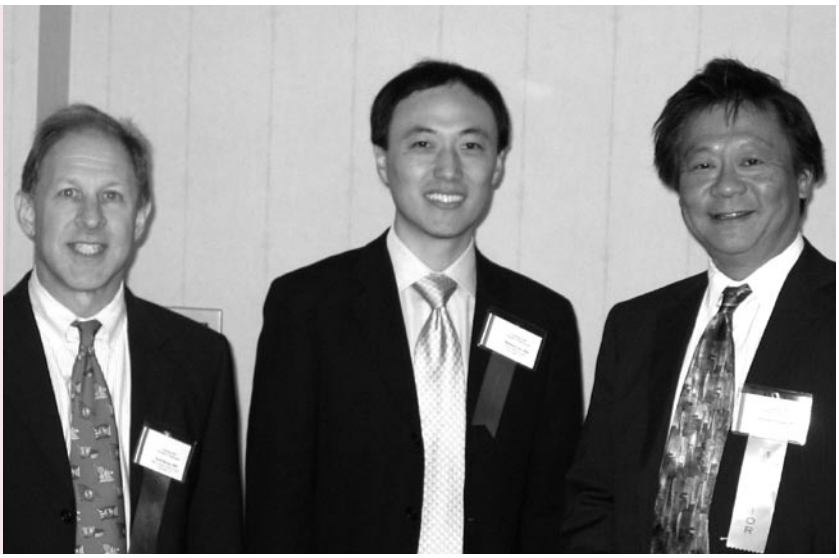
Cardiology & Arrhythmia Symposium
Sept. 26–27, 2008
Sheraton Grand Sacramento
1230 J Street, Sacramento
For more information,
call (916) 733-6966.

A new name

In response to the growing interest in vascular health and the growing need for information about vascular conditions, Mercy Heart Institute has expanded its focus and changed its name to Mercy Heart & Vascular Institute. With the increased focus on the *vascular* in cardiovascular, Vascular HealthScreen was launched in the fall to offer the community low-cost screenings for blockages in the arteries. Positive community response to the new program has been widespread.

Cardiology Symposium

Scott Baron, MD (left), and Michael Chang, MD (right), welcome Stanford University Medical Center guest presenter David Lee, MD (center), to the 17th Annual Cardiology Symposium: Concepts & Controversies held at the Hyatt Regency Sacramento on Oct. 12–13.



Mercy
A member of CHW

Mercy Heart Institute
3939 J Street, Suite 220
Sacramento, CA 95819-3633