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Redmond Regional: The Proof is in the Accreditations

TriStar Heart Journal Editorial Staff

Redmond Regional Medical Center in Rome, Ga., is a 230-bed acute care facility, serving Northwest Georgia and areas of Alabama. The hospital has more than 245 physicians in more than 30 specialties and a staff of approximately 1,200. The provider also is the only hospital in Northwest Georgia with 24-hour access to percutaneous coronary intervention (PCI), open-heart surgery and other cardiac procedures, as well as being the first hospital in the state to receive advanced certification for heart failure.

"The recent Joint Commission [JCAHO] accreditation recognizes the quality of care that is provided at Redmond," says John D. Quinlivan, CEO of Redmond. "More often,

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Myocardial Tissue Characterization with Cardiac MR: Toward Non-invasive Histology?

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David C. Huneycutt, Jr., MD

Characterizing diseased tissue is the fundamental goal of any diagnostic strategy. Hence, a lung biopsy characterizes a pulmonary nodule, much like a liver biopsy in hepatitis. For obvious reasons, characterization of myocardial tissue has been difficult to integrate into standard clinical practice. More than any current imaging modality, cardiac magnetic resonance (CMR) has the ability to characterize myocardial tissue with precision similar to histology in certain circum-

stances. Other imaging modalities use a singular physical property to characterize tissue—density with computed tomography, emission of a radionuclide with nuclear imaging or behavior of sound waves with ultrasound. In contrast, the pulse sequences of CMR have considerable flexibility and can be altered to highlight certain tissue characteristics.

The CMR toolbox is replete with sequences that highlight certain aspects of tissue pathology, such as T2 relaxation properties. For instance, the presence of myocardial iron in hemochromatosis diminishes T2 signal¹, while the presence of myocardial edema (the early pathology seen in both infarction and inflammatory states) increases T2 signal².

While some properties of tissue are easily obtainable (i.e., T2 sig-

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From the Editor: The Science, Art and Unintended Variability of Medicine

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Tasks with a proven approach are best completed in precisely the same fashion each time, the morning routine serves as a perfect example. Start the coffee, get dressed and point the car in the same direction each day; this tried and true approach provides a safe, on-time arrival. Although traffic or construction occasionally requires an intentional detour, unnecessary variation or missing a turn usually results in getting lost and arriving late.

So goes the science of medicine. Health-care providers painstakingly apply their knowledge, technical skills and experience to provide consistent and evidence-based care. Unintended variability is effort-intensive, costly and rarely results in superior outcomes. Case in point, variation in STEMI care reduces the likelihood and timeliness of revascularization, resulting in increased mortality.

On the other hand, intentional variation is most pronounced where science is deficient. So goes the art of medicine. Examples include: individualized platelet function testing, selective use of radial grafts and minimally-invasive CABG, preoperative AAA risk-assessment and the value of CMR over traditional imaging. On these issues which have a lack of consensus, expert TriStar physicians provide cutting-edge insight.

While the science of medicine defines the usual approach to clinical care, much like the morning routine, the art helps navigate through uncertainty and obstacles. Neither should be confused with unintended variability. We hope this issue of *TriStar Heart Journal* facilitates your practice in the science and art of medicine.

Because no two patients are alike, physicians may excuse variance in their practice as customization. In truth, too much of the variability in the process of care is unintended and unjustified and should be eliminated.

Thomas L. Garthwaite, MD, Vice President and Chief Operating Officer, Clinical Services, Hospital Corporation of America

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Seeking an Ideal System of STEMI Care

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David E. Chambers, MD

The American College of Cardiology (ACC) Door-to-Balloon (D2B) Alliance has established the target that >75% of patients with ST-elevation myocardial infarction (STEMI) should achieve D2B times of 90 minutes throughout the U.S. To facilitate this goal, there has been tremendous growth of regional STEMI systems of care, demonstrating improvements in time to treatment, the percentage of patients receiving

primary percutaneous coronary intervention (PPCI), and which suggest an improvement in outcomes over the past five to 10 years¹. Specifically, establishing a STEMI receiving center (SRC) has demonstrated an 86% rate of D2B 90 minutes in various regions, surpassing the ACC D2B Alliance benchmark².

The American Heart Association's (AHA) Mission: Lifeline program, which is tasked with developing and implementing regional plans to deliver timely and high-quality STEMI care, suggests there are four key players in a STEMI system of care: the public, including patients; emergency medical services (EMS); STEMI-re-



Location of 10 Independent Regional ST-Elevation Myocardial Infarction Receiving Center Networks. Image Source: J Am Coll Cardiol Intv 2009; 2:339-346.

ferring hospitals; and STEMI-receiving hospitals. Mission: Lifeline stresses that there is 'no one-size-fits-all' answer in establishing an ideal system due to regional-specific considerations.

For EMS and emergency departments (ED), standardized point-of-entry protocols (created by state-based coalitions of EMS personnel, emergency physicians and cardiologists, and supported by payers and administrators) would establish which patients are transported to the nearest hospital and which patients are transported to the nearest STEMI-receiving hospital. This is based in part on the acquisition, interpretation and transmission of a pre-

Abdominal Aortic Aneurysms: What Size Should Be Repaired and How?

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Billy J. Kim, MD

Decision-making related to patients with an abdominal aortic aneurysm (AAA) is complex due to varied risks of rupture and patient-specific factors that influence anticipated life expectancy, operative risk and the need to intervene. Factors that determine the choice of operative strategy include the anatomic features of the AAA and the success of medical management of co-morbidities.

The risk of rupture is increased by several factors. The U.K. Small Aneurysm Trial (UKSAT) reported 103 aneurysm ruptures in 2,257 patients over a seven-year period, with an annual rupture rate of 2.2%¹. Factors significantly and independently associated with an increased risk of rupture include: female gender, large initial aneurysm diameter, low forced expiratory volume in one second, current smoking history and elevated mean blood pressure. Women have a two to four times increased likelihood of rupture than men².

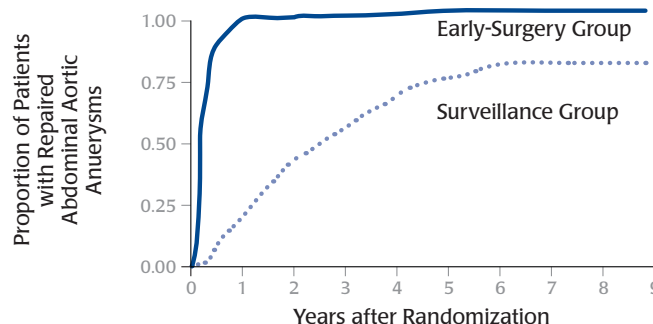
Patients who present with an AAA and abdominal or back pain are at an increased risk of rupture and intervention is recommended. If aneurysm rupture does occur, more than half of patients die prior to hospitalization. Of those who reach the operating room, mortality rate is approximately 50%, but dependent on the presenting clinical condition. Therefore, prevention

of rupture is key in successful AAA treatment when patients are asymptomatic; however, management is dependent on the size of the aneurysm.

There is a general agreement that small fusiform aneurysms less than 4.0 cm in maximum diameter are at low risk of rupture and can be monitored safely. Likewise, fusiform aneurysms greater than 5.4 cm in maximum diameter should be repaired in healthy patients. Saccular aneurysms should be repaired

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Kaplan–Meier Estimates of the Cumulative Proportion of Patients Who Underwent Surgery for Aneurysm Repair, According to Treatment-Group Assignment.



Source: U.K. Small Aneurysm Trial Participants. N Engl J Med 2002;346:1445-1452.

hospital 12-lead electrocardiogram (PH-ECG). EMS personnel or emergency physicians after receiving the transmitted PH-ECG would then activate the catheterization lab team.

In an ideal STEMI system of care, standardized point-of-entry protocols dictate that STEMI patients are transported directly to a STEMI-receiving (or PPCI-capable) hospital based on risk criteria, contraindications to fibrinolysis and the proximity of the nearest PPCI service.

Also in an ideal system, PH-ECG diagnosis of STEMI, ED notification and catheterization lab activation would occur according to standard algorithms that would facilitate a short ED stay or transport directly from the field to the catheterization lab, according to Mission: Lifeline. Similarly, single-call systems from STEMI-referral hospitals with universal patient acceptance by STEMI-receiving hospitals would result in immediate activation of the catheterization lab team without the need for additional review or determination of bed availability. Also, PPCI would be provided as routine treatment for appropriate STEMI patients 24 hours per day and seven days per week.

Finally, in an ideal system, the public would realize the importance of promptly activating EMS via 9-1-1 and getting treatment quickly.

Local Care

Approximately two years ago, the Tennessee Cardiac Systems of Care Task Force was formed with the goal of improving quality of care of cardiac patients across the state. Tennessee recently ranked 48 out of 52 states (including Puerto Rico and Washington, D.C. in cardiovascular mortality. To improve Tennessee's quality of cardiac care, the Task Force has been involved with Mission: Lifeline to establish an ideal STEMI system of care for the Greater Nashville region. Currently, the Task Force is meeting with various EMS representatives to enhance PH-ECG capabilities, along with quality/data improvement specialists. Also, the Task Force is currently formulating protocols for PH-ECGs and pre-hospital catheterization lab activation. Currently, Chattanooga, Knoxville and Memphis have established PH-ECG networks, in an ongoing effort to initiate an ideal system of STEMI care for Tennessee. ■

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Redmond Regional: The Proof is in the Accreditations

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savvy patients are utilizing the internet to assess hospitals for quality and provider certification, and these certifications and accreditations transparently display the level of quality Redmond provides,” Quinlivan adds.

Redmond has earned a series of awards recognizing its quality of care for treating various patient populations with heart disease. Two years ago, the provider received chest pain accreditation for PCI. Around the same time, Redmond accepted accreditation from the JCAHO for acute myocardial infarction (MI) and stroke. Most recently, the provider received bronze status for the advanced certification from the JCAHO for heart failure.

The JCAHO determines advanced heart failure certification based on multiple quality measures, including discharge instructions, evaluation of left ventricular function and smoking cessation.



Redmond Regional Medical Center has received numerous accolades and awards for their achievements in quality improvement.

Annually, more than one million people are admitted to an inpatient setting for heart failure and 27 percent of patients with heart failure on Medicare are readmitted within 30 days¹. In fact, the Centers for Medicare & Medicaid Services began publicly reporting 30-day readmission rates in July 2009, and the agency is looking to cut reimbursements for those readmissions.

“Increasingly, hospitals are being held accountable for their patients’ health, not only while they are hospitalized, but also after discharge, which is particularly relevant for the 30-day readmission rates for heart failure patients,” Quinlivan explains. “Therefore, it’s particularly important for our staff to provide superior inpatient care, as well as clear home care instructions prior to discharge for patients with heart failure.”

To combat this common occurrence of readmission for heart failure, data have shown that the addition of a one-hour, nurse educator–delivered teaching session at the time of hospital discharge results in improved clinical outcomes, increased self-

care measure adherence and reduced cost of care in patients with systolic heart failure². Therefore, Redmond’s meeting the quality measure of heart failure discharge instructions holds particular relevance for this patient population.

The JCAHO accreditation for acute MI and stroke recognizes the necessity of timeliness of treatment in these two patient populations. “With either stroke or acute MI patients, Redmond has established standardized protocols to ensure timely access to appropriate treatment strategies,” Quinlivan says. As a result, Redmond has become a PCI-capable referring center, and has received 43 patients for treatment of acute MI or acute coronary syndromes (ACS) since November 2010.

Also, for these patient populations, Redmond is “partaking in protocol-driven clinical trials to ensure we are providing optimal care,” says Butch Garrison, RN, MS, clinical research coordinator at Redmond.

Participation in trials, such as GRAVITAS, DAPT and EDUCATE, provide the Redmond caregivers the resources to standardize and monitor the pharmacological therapies for acute MI or ACS patients who require antiplatelet drugs.

This level of cardiac care is being unified across the state of Georgia, with the collaboration of three hospitals. In late 2010, Quinlivan was chosen to lead TriStar’s northwest Georgia market, comprised of Cartersville Medical Center in Cartersville, Polk Medical Center in Cedartown, and Redmond.

Fully accredited by the JCAHO, the 112-bed Cartersville was recently named an accredited Chest Pain Center, and also began a state-approved PCI program on Jan. 24. Polk, also fully accredited by the JCAHO, is a 25-bed critical-access hospital that houses a medical personnel of 12 primary care physicians, as well as specialists and consultants and a staff of approximately 100.

The individual providers serving the various environments—and collaboration among those providers—will ultimately determine the quality of care across the new healthcare system, says Quinlivan. “At Cartersville, we have several new hospital-employed primary care practices that are joining the team, and now our hospitalist group is provided by HCA-physician services—a sister group to the one that serves Redmond,” he adds. “In Polk County, we operate the hospital with a busy ER, and also provide the county EMS service. We’re adding cardiac diagnostics and continue to upgrade the facility.”

He concludes that quality of care ultimately resides in the quality of physicians, adding that the multispecialty physician group Harbin Clinic—which has about 150 physicians that serve Rome, Ga., including all of Redmond’s cardiac team—is one of the main reasons for the superior cardiac care. ■

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Pull the TRIGGER

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Dual oral antiplatelet therapy, usually with aspirin plus either clopidogrel or prasugrel, is effective in reducing complications of percutaneous coronary intervention (PCI), such as death, myocardial infarction and stent thrombosis. Anticoagulants increase the risk of bleeding, which in turn, is associated with adverse outcomes and mortality^{1,2}. Unfortunately, a reduced response to clopidogrel may occur for reasons including genetic variants and drug interactions, either of which may prevent adequate drug effect.

The GRAVITAS (Gauging Responsiveness With A VerifyNow Assay-Impact On Thrombosis And Safety) trial, presented at the 2010 AHA's Scientific Sessions, failed

“Patients with stable coronary artery disease in whom stents are implanted and have a poor response to clopidogrel have a high rate of stent thrombosis and major adverse cardiovascular events. TRIGGER-PCI is the first trial which will demonstrate whether more potent platelet inhibition with prasugrel can safely improve event-free survival in this high-risk group.”

U.S. TRIGGER-PCI Principal Investigator Gregg W. Stone MD, Columbia University Medical Center and the Cardiovascular Research Foundation, New York.

“In order to have the best risk/benefit profile with antiplatelet drugs we need to individualize our therapies. Achieving a measured level of platelet inhibition may prove to be the best strategy to improve the outcome of patients.”

Jorge F. Saucedo, MD, University of Oklahoma, Oklahoma City, OK.

to demonstrate that high-dose clopidogrel was more effective in reducing cardiovascular events in hypo-responders to standard-dose clopidogrel undergoing PCI. Interestingly, by the criteria used in GRAVITAS, a high percentage of patients (40.8%) were hypo-responders.

One hypothesis as to why GRAVITAS failed to show a benefit is that high-dose clopidogrel may not be potent enough to enhance platelet inhibition to the degree necessary in hypo-responders.

To assess whether the more potent

drug prasugrel is more effective in hypo-responders undergoing PCI, compared with clopidogrel, the TRIGGER-PCI (Testing Platelet Reactivity In Patients Undergoing Elective Stent Placement on Clopidogrel to Guide Alternative Therapy With Prasugrel) trial is currently being performed.

Only a handful of U.S. research sites have been selected to participate in TRIGGER-PCI, including SCRI's Redmond Regional Medical Center/Harbin Clinic and Centennial Medical Center/Centennial Heart sites.

Accumetrics' VerifyNow System is an automated laboratory test being utilized to assess the platelet response to clopidogrel and prasugrel.

TRIGGER-PCI is seeking to determine whether the widespread use of VerifyNow to identify hypo-responders and guide subsequent antiplatelet therapy is justified and should become the standard of care in PCI.

TRIGGER-PCI is only one of the wide spectrum of cardiovascular trials being conducted at SCRI's growing research site network. In addition to those previously mentioned, the network includes: Osceola Regional Medical Center (Kissimmee, Fla.), CJW Medical Center (Richmond, Va.) and Henrico Doctors' Hospital (Richmond, Va.). ■

For more information on SCRI's cardiovascular research trials, visit:
www.sarahcannonresearch.com/our-research/cardiovascular. To refer a patient or be added to our email list, contact us directly at (615) 329-7274 or cvresearch@scresearch.net.

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Current SCRI Cardiovascular Research	
Trial	Description
LONGEVITY	EP-Device follow-up
STARFIX	EP-Device lead follow-up
ABILITY	EP-Device lead follow-up
IRASE	EP-Atrial fibrillation ablation
BRADYCARE	EP-Pacemaker programming enhancement
QUICKFLEX	EP-Device Lead
HESTIA	EP-Dronedaron with pacemaker and atrial fibrillation
HCRI-DAPT	PCI-Dual antiplatelet therapy (any BMS or DES)
EDUCATE	PCI-Dual antiplatelet therapy (Endeavor DES only)
TRIGGER	PCI-Prasugrel vs. Clopidogrel in hyporesponders (any DES)
PHOENIX	PCI-Cangrelor antiplatelet therapy (any DES)
SAPPHIRE	Carotid-Stent
BRIDGE	CAD-Cangrelor antiplatelet therapy "bridge" pre-CABG
BOSS	Cath/PCI-NaHCO ₃ to prevent CIN in CKD (GFR<45)
PHOENIX	ACS anticoagulation

Abdominal Aortic Aneurysms: What Size Should Be Repaired and How?

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electively.

The debate remains for AAAs between 4.0 cm and 5.4 cm regarding immediate repair or surveillance and selective repair. There have been several studies including the UKSAT and the Aneurysm Detection and Management (ADAM) trial. These trials show that the 30-day operative mortality in the immediate surgery group (5.5% UKSAT, 2.1% ADAM) led to an early disadvantage in survival. Investigators found no statistically significant difference in long-term survival between the groups^{3,4}.

A certain patient subgroup may benefit from early surgery. In UKSAT, the estimated adjusted hazard ratio favored early surgery for younger patients and larger aneurysms, even though statistical significance was not demonstrated. The ADAM trial showed similar results for long-term effects.

Endovascular aneurysm repair (EVAR) has rapidly expanded since the first report by Parodi et al in 1991 and is progressively replacing open surgery for the treatment of infrarenal AAAs. Long-term durability and associated costs of EVAR have not been completely established; however, it now accounts for more than half of all AAA repairs. Also, since the introduction of EVAR, the annual number of deaths from intact and ruptured AAAs has significantly decreased in the U.S. EVAR is associ-

ated with reduced perioperative mortality compared with open surgery, which also plays in the decision-making process for elective repair of small AAAs.

The CAESAR and PIVOTAL trials compared immediate EVAR with surveillance and selective EVAR, but neither trial was designed to determine whether immediate EVAR might be beneficial or harmful for specific AAA size ranges or age subgroups. These studies demonstrate that compared with surveillance and delayed treatment, early EVAR offers no advantage with respect to all-cause mortality. Surveillance with selective repair is most appropriate for older men with significant co-morbidities. Younger, healthy patients, especially women with AAAs between 5.0 cm and 5.4 cm, may benefit from earlier repair.

Uncertainty remains for AAAs in the range of 4.0 cm to 5.4 cm. Therefore, clinicians need to individualize treatment for each patient. ■

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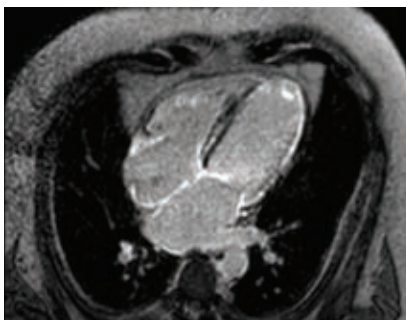
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Myocardial Tissue Characterization with Cardiac MR: Toward Non-invasive Histology?

Continued from page 01

nal), the utilization of gadolinium contrast broadens the diagnostic ability of CMR. Contrast accumulates in damaged, infiltrated or scarred myocardium. This "enhancement" can be used to evaluate a various pathologies. The scar of myocardial infarction (MI) confined to the subendocardium or involving the full transmural thickness of the myocardium is well-delineated by contrast-enhanced CMR. Scar thickness is highly clinically relevant, as it predicts functional recovery following revascularization and is a robust predictor of viability³. The same technique utilized for the evaluation of scarring from MI can demonstrate the fibrosis of hypertrophic cardiomyopathy, which typically occurs in a patchy pattern in regions of significant hypertrophy. The extent of fibrosis correlates with disease severity and risk of ventricular arrhythmias⁴.

Infiltrative disorders of the myocardium, while unusual in clinical practice, pose a difficult diagnostic challenge. These disorders including myocarditis, amyloid and sarcoid can be accurately imaged by standard CMR techniques. By using pulse sequences (T2, T1 and delayed enhancement), these infiltrative disorders can be thoroughly evaluated. In myocarditis, the underlying pathology of inflammatory cell infiltrate,



Amyloid. Diffuse delayed enhancement corresponding to protein fibril infiltration of the myocardium. Note the delayed enhancement involving the left atrial walls.

myocardial edema and scar tissue can be visualized with a high degree of accuracy. In patients with acute cardiac symptoms, elevated cardiac biomarkers and unobstructed coronary arteries, a CMR for evaluation of myocarditis should be performed⁵. Cardiac amyloid diagnosis is often considered in patients with unexplained left ventricular hypertrophy, although various conditions can appear morphologically similar (hypertrophic cardiomyopathy, hemochromatosis and Fabry's disease). The pattern of delayed

enhancement in patients with cardiac amyloid corresponds to the diffuse protein infiltration of the myocardium.

CMR also is the test of choice when assessing for myocardial viability. These conditions include cardiac amyloid, hemochromatosis, sarcoid, myocarditis and other infiltrative disorders. ■

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'Cutting Edge' of Cardiothoracic Surgery

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Daniel M. Goldfaden, MD

Do radial artery grafts improve patency?

A recent study of 757 patients found that the use of a radial artery graft compared with a saphenous vein graft for coronary artery bypass grafting (CABG) surgery did not result in improved angiographic patency at one year¹.

These findings validate my experience after 25 years in clinical practice. During this time, we've experienced two periods in which radial arteries have gone in and out of favor. In both instances, the conduit lost favor because of high early failure rates. About eight to 10 years ago, radial artery grafts underwent a second wave of popularity due to new methodologies of pharmacological management to help prevent spasm. As a result, we began using radial artery grafts in the mid to late 1990s.

However, we were displeased with our results due to the significant early and late failure rate, which were worse than our results with vein grafts. Therefore, we discontinued their use over the past four to five years. Now, we reserve radial grafts for those patients who do not have another conduit, or occasionally, in younger patients with a major graft in an artery that we cannot bypass with an internal mammary.

Does open vein harvesting still have a role in CABG?

We've been using endoscopic vein harvesting for eight to 10 years. After a short period of training, our physician's assistants could endoscopically harvest the vein at least as fast as with an open technique, while the surgeons are performing internally mammary harvest. We have noticed no change in our closure rates. Also, the patients are much more comfortable, as they heal faster and have less swelling. Previously, leg incisions were very often challenging, especially in patients with chronic leg edema or diabetes.

In fact, an analysis of 8,542 patients found that use of endoscopic vein harvesting during CABG was not associated with harm or decreased survival compared with open vein harvesting². The authors of the accompanying *Circulation* editorial suggested that the technique has become "obsolete"³. This opinion rings true with our practice, especially in the hands of an experienced operator.

Has the off-pump vs. on-pump CABG debate been settled?

This is another technique within cardiothoracic surgery that has undergone waves of popularity and decline. We don't perform

very much off-pump CABG anymore, while approximately five to seven years ago we were using off-pump for as many as 25 to 30 percent of our cases. Again, we found that our complication rate did not improve and it was technically more challenging. However, in selected populations, such as stable patients with anterior circulation and larger vessels, off-pump is still a good technique, but we use it much less frequently.

Again, the literature seems to be pointing in the same direction. In a randomized trial, Shroyer et al. found that patients in the off-pump study arm had worse composite outcomes and poorer graft patency than did patients in the on-pump group⁴.

What about the growing role of interventional cardiologists in valvular disease?

Transcatheter aortic valve implantation (TAVI) procedures are becoming a practical reality for inoperable patients with aortic stenosis, due to the positive results of PARTNER⁵, but the role is still somewhat limited and the verdict on the long-term results is still out. Also, the best results are achieved when both the surgeon and the cardiologist make a unified decision about the best treatment for the patient. These evolving techniques are probably the wave of the future, and will probably become routine practice for certain patients over the next 10-15 years.

However, the complexity of valvular disease should caution cardiologists from exploring these techniques in too broad a patient population. For instance, a recent 72-year-old female patient presented with diabetes mellitus, hypertension and dyslipidemia, and required three-vessel coronary bypass and exploration of the mitral valve (see picture). An atrial mass was resected and at pathologic examination turned out to be an incidental benign hamartoma of the heart. After closure of the defect, the mitral valve was replaced with a bioprosthetic valve. She had no growth from operative cultures and has had a relatively benign recovery, and she is neurologically intact with normal renal function. ■



Mitral annulus after placing the sutures for implanting the prosthetic valve.

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TriStar News

4TH ANNUAL
CARDIOVASCULAR SYMPOSIUM

FOCUS ON HEART



PRACTICAL INFORMATION
FOR CLINICAL DECISION MAKERS

5.5 CME

APRIL 16, 2011



AGENDA

10:00 A.M. - 10:30 A.M.
Registration

10:30 A.M. - 10:45 A.M.
Welcome Comments

New Cardiovascular Drugs: How and When to Use Them
Moderator: Steven Humphrey, M.D., FACC — Southern Hills Medical Center

10:45 A.M. - 11:05 A.M.
Stroke Prevention in Atrial Fibrillation: Dabigatran and Rivaroxaban: Oral Antithrombin Agents
Crista Jones, M.D., FACC — Centennial Medical Center

11:05 A.M. - 11:25 A.M.
Antiplatelet Therapy in Coronary Artery Disease: Prasugrel and Ticagrelor
Brian Long, M.D., FACC — Skyline Medical Center

11:25 A.M. - 11:45 A.M.
Direct Thrombin Inhibitor in Primary PCI: Bivalirudin
Steven Manoukian, M.D., FACC, FSCAI — Centennial Medical Center

11:45 A.M. - 12:05 P.M.
New Medical Treatment Options for Atrial Fibrillation
Tom Wilkins, M.D., FACC — Summit Medical Center

12:05 P.M. - 12:20 P.M.
Panel Discussion

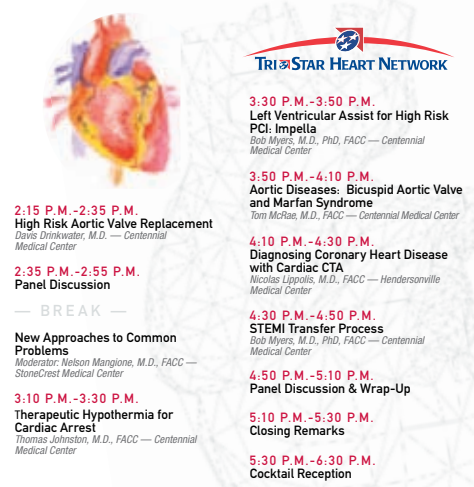
— BREAK —

New Approaches in the Treatment of Structural Heart Disease
Moderator: Larry Pass, M.D. — Centennial Medical Center

12:35 P.M. - 1:15 P.M.
Percutaneous Aortic Valve Replacement
Vasilis Baladarios, M.D. — Emory University

1:15 P.M. - 1:55 P.M.
Percutaneous Mitral Valve Therapies
Samir Kapadia, M.D. — Cleveland Clinic Foundation

1:55 P.M. - 2:15 P.M.
Therapeutic Closure of Holes in the Heart
John Haddock, M.D. — Centennial Medical Center



2:15 P.M. - 2:35 P.M.
High Risk Aortic Valve Replacement
David Dworkowitz, M.D. — Centennial Medical Center

2:35 P.M. - 2:55 P.M.
Panel Discussion

— BREAK —

New Approaches to Common Problems
Moderator: Nelson Mangione, M.D., FACC — StoneCrest Medical Center

3:10 P.M. - 3:30 P.M.
Therapeutic Hypothermia for Cardiac Arrest
Thomas Johnston, M.D., FACC — Centennial Medical Center

3:30 P.M. - 3:50 P.M.
Left Ventricular Assist for High Risk PCI: Impella
Bob Myers, M.D., PhD, FACC — Centennial Medical Center

3:50 P.M. - 4:10 P.M.
Aortic Diseases: Bicuspid Aortic Valve and Marfan Syndrome
Tom McRae, M.D., FACC — Centennial Medical Center

4:10 P.M. - 4:30 P.M.
Diagnosing Coronary Heart Disease with Cardiac CTA
Nicolas Lippolis, M.D., FACC — Hendersonville Medical Center

4:30 P.M. - 4:50 P.M.
STEMI Transfer Process
Bob Myers, M.D., PhD, FACC — Centennial Medical Center

4:50 P.M. - 5:10 P.M.
Panel Discussion & Wrap-Up

5:10 P.M. - 5:30 P.M.
Closing Remarks

5:30 P.M. - 6:30 P.M.
Cocktail Reception

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