American College of Cardiology
Scientific Session News

ACC.07 56th Annual Scientific Session

i2 summit 2007 INNOVATION IN INTERVENTION

Monday

March 26, 2007
New Orleans

Inside

Don't Forget

Lessons Learned From Katrina and Medical Aspects of Disaster Planning

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56th Annual Convocation

Monday, 6:30 to 7:30 p.m. Marriott New Orleans, Mardi Gras Ballroom F, G & H

Laptop Learning

Participants in the VIVA@i2 Laptop Learning program focus on the presentation. See the related story on page 8.

ACC late-breaking trials focus on heart failure

In ACC's first late-breaking clinical trials session at this year's meeting, four researchers presented trials that looked at different aspects of the treatment of patients with heart failure or at risk of heart failure.

The ALPHA study looked at the prognostic value of T-wave alternans in patients with heart failure due to non-ischemic cardiomyopathy, and it raised the question of whether patients with a normal T-wave alternans test might benefit from implantable cardioverter defibrillator (ICD) therapy.

ALPHA (T-wave Alternans in Patients with Heart Failure Trial) enrolled 446 stage II and III heart-failure patients with non-ischemic cardiomyopathy, left ventricular ejection fraction of less than 40 percent and no history of malignant arrhythmias. The patients were given a T-wave alternans test at nine hospitals in Italy and followed for 18 to 24 months to assess all-cause mortality rates, combined rates of cardiac death plus life-threatening arrhythmias and rates of sudden death plus life-threatening arrhythmias, said the study's presenter, Gaetano M. De Ferrari, M.D., F.A.C.C.

Dr. De Ferrari and his colleagues concluded that in stage II and stage III heart-failure patients with non-ischemic cardiomyopathy, an abnormal T-wave alternans test was associated with a fourfold higher risk of cardiac death and life-threatening arrhythmias. These patients would benefit from ICD therapy.

They also concluded that "patients with a normal T-wave alternans test have a good prognosis and are unlikely to benefit from ICD therapy," according to Dr. De Ferrari, head of

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Stem cell trials report favorable results at LBCT

Two novel stem cell treatments, one to treat ischemic cardiomyopathy and the other for acute MI, showed favorable results in their respective trials, highlighted here during Sunday's i2 Summit 2007 Late-Breaker Session II.

A third trial showed that treatment with a protein kinase C inhibitor can ameliorate reperfusion injury during PCI for acute STEMI.

But there were disappointing results from a trial of a distal protection device tested during PCI for STEMI, that showed no clinical, enzymatic, functional or electrocardiographic protection at one month post procedure.

DEDICATION Trial negative

A randomized trial of distal protection with a filterwire device during PCI showed no clinical, enzymatic, functional or electrocardiographic protection at one month post procedure compared with PCI without the protection.

The DEDICATION trial also randomized patients to receive a drug eluting or bare metal stent with or without distal protection during PCI for STEMI.

Lead author Leif Thuesen, M.D., Aarhus University Hospital, Skejby, Denmark, said the trial included 626 patients.

"Disappointingly, we have to conclude that routine use of this protection device could not be supported by our data," Dr. Thuesen said, during a press conference after his oral presentation.

The DEDICATION trial was very well conducted and controlled, said William O'Neill, M.D., F.A.C.C., University of Miami Miller School of Medicine, Miami, and moderator of a press conference which highlighted these four late-breaking reports.

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Dr. Nissen reflects on past year, future

(Editor's note: ACC President Steven E. Nissen, M.D., F.A.C.C., recently reflected on his time in office and his thoughts on the future of the College.)

There are a number of things that I look back on and realize that it has been an exciting year for the College and cardiovascular medicine. I think first would have to be the move to the new Heart House in Washington, D.C. Members who have already visited our new facility realize how much we needed a facility such as this that was better suited to the College's current needs. Our location in the heart of Washington enables us to have greater impact on advocacy issues. In addition, our new multipurpose learning center allows a greater diversity in meetings and education opportunities.

President Steven E. Nissen, M.D.

Another major highlight for me was the search for, and recruitment of, our new Chief Executive Officer, Jack Lewin, M.D. I think Jack brings so many new ideas and fresh perspectives to the College. Making the transition to a new CEO is really a huge accomplishment for a large organization. I believe we will look back on this as an important milestone for the College because he brings so much experience with advocacy and quality issues. I am sure we can look forward to some great things as a result.

So many things have happened this year.

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Meeting reminders for ACC.07 and i2 Summit

Registration

ACC.07 registration is in Hall F of the Ernest N. Morial Convention Center and is open during the following hours:
Monday .....7 a.m. to 5:30 p.m.
Tuesday .....7 a.m. to 3 p.m.

The i2 Summit registration is in Hall F of the convention center and is open during the following hours:
Monday .....7 a.m. to 5:30 p.m.
Tuesday .....7 a.m. to 3 p.m.

ACC Office

The ACC Office is in Room 204 of the convention center, (504) 670-6704; fax: (504) 670-6705. ACC staff are available during the following hours:
Monday.....7 a.m. to 6 p.m.
Tuesday.....7 a.m. to 5 p.m.

ACC Central

ACC Central, Booth #2267, is the place to visit for news on educational programs, products, advocacy developments and new College ventures designed to improve clinical practice and management. Attendees may also update their memberships and pick up copies of the latest College publications.

ACC Exposition

The ACC Exposition, which is held in Halls B-G of the convention center, features nearly 400 exhibitors displaying a variety of equipment, pharmaceuticals, devices and services. The expansive Exposition, a must-see for all cardiovascular professionals, is open to ACC.07 and Innovation in Intervention: i2 Summit 2007 attendees. Visit the Expo floor during the mid-day break, from 12 to 1:30 p.m. Monday and Tuesday, and for the Expo Lunch and Learn program, where exhibitors will be offering complimentary lunches.
Monday.....9 a.m. - 5 p.m.
Tuesday .....9 a.m. - 1:30 p.m.

Shuttle Service

Complimentary shuttle service will operate daily from the convention center and the official hotels. Check the shuttle signs posted in the lobby of each hotel for additional information, changes, frequency of service and specific departure times for the designated route.
General hours of operation are:
Monday .....6 a.m. - 6:30 p.m.
Tuesday .....6 a.m. - 4:30 p.m

The scheduled end times are when the last shuttles will depart from the convention center. The last shuttles will depart from hotels approximately 90 minutes before this time.

Information Stations

Attendees will find Information Stations located in lobbies of the convention ccenter. At the Information Stations, attendees may access the Internet, browse the education sessions, plan, save and print on-site itineraries, access ACCustom, exhibitors and products, and view the Exposition floor plan.
Information Station 1.....Lobby B1
Information Station 2 .....Lobby D
Information Station 3.....Lobby E
Information Station 4 .....Lobby H
Information Station 5 .....Level 2, outside Room 238

Restaurant Reservations

The Annual Scientific Session Restaurant Reservation Service is located in Lobby F of the convention center during the following hours:
Monday.....9 a.m. - 6 p.m.
Tuesday.....9 a.m. - 3 p.m.

Scientific Session News

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Pulmonary vein isolation stressed in ablation session

Ablation of Atrial Fibrillation: Update for 2007" addressed several issues in the treatment of atrial fibrillation (AF), including the effect of underlying disease, differences between chronic and paroxysmal AF, the need for repeat ablative procedures, and the use of minimally invasive surgery.

The speakers in the session emphasized the importance of complete pulmonary vein (PV) isolation, noting that it must be the endpoint of every ablation procedure.

Douglas L. Packer

Underlying disease is a factor in selecting an ablation technique, and Douglas L. Packer, M.D., F.A.C.C., addressed the question of which technique produces the best result in a particular situation.

This question is not easy to answer, he said. Most studies on AF ablation have involved heterogeneous groups of patients and, as a result, said Dr. Packer, "it's difficult to tease out outcomes based on underlying disease."

In general, he said, as the extent of disease progresses, a more aggressive ablation approach is needed, and an adjunctive approach may also be necessary.

Underlying disease has been associated with a slightly higher mortality rate after AF ablation, noted Dr. Packer, and the mortality rates have been similar after AF ablation for pulmonary vein stenosis, injury of the phrenic nerve, and tamponade. The risk for stroke is also higher for patients with underlying disease.

Dr. Packer added that surgery for AF is indicated when coronary artery bypass grafting or valve repair is warranted, when recalcitrant thrombus is present, when warfarin is contraindicated, and when chronic AF is associated with marked enlargement of the left atrium.

Karl-Heinz Kuck

Karl-Heinz Kuck, M.D., F.A.C.C., discussed chronic AF, focusing on the differences between patient characteristics and outcomes for chronic and paroxysmal AF.

Dr. Kuck noted that the findings of the Euro Heart Survey have shown that patients with chronic AF are significantly older, and that a greater percentage of these patients have congestive heart failure, diabetes, heart failure, and a large left atrial diameter. He pointed out that it is important to note how chronic AF is defined, as there is variation in the duration of AF that is chronic.

As with ablation for paroxysmal AF, PV isolation should be central to the procedure, and additional ablation also may be necessary later. He suggested a stepwise approach of circumferential pulmonary vein isolation, repeat PV isolation, defragmentation, and attempt at left atrial appendage isolation.

The risk for morbidity and mortality after ablation of chronic AF is significant, said Dr. Kuck. Because of this, he emphasized that interventions should be carried out earlier, before AF becomes chronic. No studies have been done to evaluate whether earlier intervention will prevent chronic AF, and he is currently involved with designing such a study.

G. Neal Kay

The success of ablation is higher after repeat procedures, and G. Neal Kay, M.D., F.A.C.C., noted that success is in the range of 36 percent after a first procedure and approximately 71 percent after a second procedure. "Patients need to be told to expect a second or even a third procedure to achieve long-term success," said Dr. Kay.

In discussing the predictors of repeat ablation, Dr. Kay said that studies have shown that recurrent pulmonary vein conduction is strongly predictive of a repeat procedure. He added that other factors that predict the need for a repeat procedure are an enlarged left atrium (greater than 4 cm), a high risk for chronic AF, incomplete PV isolation, and ease of inducibility.

"Non-inducibility is an important predictor of freedom from AF," said Dr. Kay. This fact holds true, he said, regardless of the type of AF or the type of technique used for the first ablation.

Dr. Kay also commented that repeat procedures that "close up the gap" are better than segmental ostial ablation. He added that studies have shown that the drivers of AF include the atrial roof, the left atrial appendage, and the coronary sinus.

Ralph J. Damiano, Jr

Minimally invasive procedures for AF ablation were discussed by Ralph J. Damiano, Jr., M.D. F.A.C.C.

Dr. Damiano noted that the original surgery for AF, the Cox-Maze procedure, was effective at achieving normal sinus rhythm and preventing stroke. In studies of the surgery, 80 percent of patients were free of AF and not taking antiarrhythmic drugs at a mean follow-up of four years. However, the surgery is technically difficult, and the rate of associated morbidity was high. Therefore, efforts were directed at developing a procedure that is easier to perform and that preserves the high success rate.

Dr. Damiano explained that with minimally invasive procedures, surgical incisions are replaced with linear lines of transmural ablation using a variety of energy sources, including cryoablation, microwave, laser, and radiofrequency.

Some of these energy sources can be unipolar or bipolar. Unipolar ablation techniques have several shortcomings, and he uses a technique with bipolar radiofrequency ablation. This technique has several advantages, including reliable transmural lesions, short ablation times, and focused delivery of energy.

Using bipolar radiofrequency, Dr. Damiano carries out a procedure that is a simplified version of the Maze III procedure and that replicates the full lesion set of that surgery. He has achieved a 92 percent rate of freedom of AF at one year with this approach. Indications for a surgical approach, said Dr. Damiano, include failure of medical treatment, one or more catheter ablations, presence of a left atrial thrombus, a high risk for stroke, or a contraindication for treatment with warfarin. ■

Competing 'states-of-the-art' enliven i2 lectures

Two state-of-the-art lectures on complex and multivessel revascularization turned into a lively point-counterpoint session during the State-of-the-Art Lecture II on Sunday.

Eberhard Grube, M.D., F.A.C.C., a consulting professor at Stanford University and chief of cardiology at Siegberg Medical School, Germany, presented the interventional state-of-the-art viewpoint on multivessel revascularization, while David Taggart, M.D., F.A.C.C., professor of cardiovascular surgery, Oxford University, U.K., gave the surgical viewpoint.

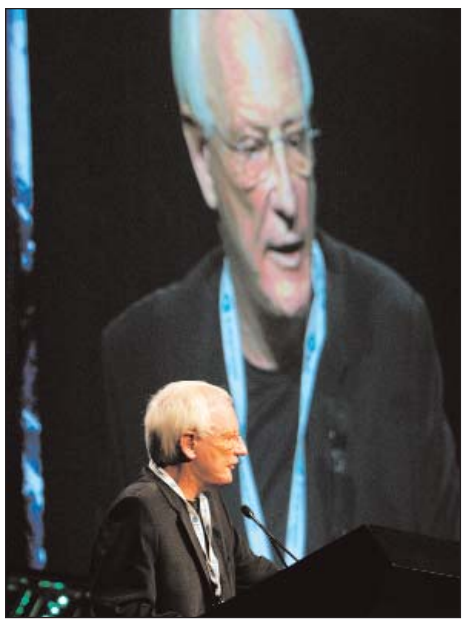
Dr. Grube, in his lecture, said there may not be much evidence yet that PCI leads to better outcomes compared with CABG in complex and multivessel lesions, but efficacy and safety are virtually the same and the choice should be based on patient and physician preference.

But Dr. Taggart said there is no acceptable, unbiased evidence that the two are equal, and it is unethical to tell a patient they are.

Each presenter offered trial data supporting his points, but only in separate interviews after the session did they directly contradict each other's conclusions.

Patients want PCI

"Patient bias and physician bias will always be in the direction of less invasive approaches to procedures — no one likes surgery," Dr. Grube said, in an interview after his presentation. "If there are other ways to treat the disease that are comparatively safe and effective then



Eberhard Grube, M.D., the trend is going to shift from surgery and toward PCI

patients will simply prefer 'stick over crack.'"

Dr. Grube said data from two ongoing randomized trials, SYNTAX and FREEDOM, hopefully will confirm the superiority of drug-eluting stents over CABG in these complex cases. But he added that randomized controlled trials are never "real world" because there is selection bias in the screening process.

Also, trials with patient enrollment sufficient for statistically solid results take so long to conclude and analyze — five more years in the case of the two studies he mentioned — that patients and physicians meanwhile must still be making their own decisions.

Dr. Grube said that after those two trials conclude, CABG will still be considered more effective for very complex lesions.

"But if the lesion is reasonably treatable with PCI, even three-vessel disease or left-main disease, patient and physician bias will be towards PCI," he said.

Meanwhile, interventionalists will interpret randomized clinical trial results from their own perspectives, as will cardiovascular surgeons.

"This has been the case in the past and will be continue to be the case in the future," Dr. Grube said.

He said there is a paucity of data on drug-eluting stents in very complex cases, but added that in the data available, the two are very close in efficacy and safety.

"CABG is the gold standard today, but interventional cardiologists are getting better and the technology is getting better, and the trend is going to shift from surgery and toward PCI," he said.

But is it ethical?

Dr. Taggart said there is a substantial body of evidence to suggest that CABG is far superior to PCI for multivessel and left-main disease.

"Therefore, it is not ethically justifiable to tell the patient we don't know what is the better treatment; that ignores what the evidence shows," Dr. Taggart said.

He said a solution would be to manage complex cases through multidisciplinary teams that present the patient with all the data.

Dr. Taggart agreed with Dr. Grube that patients do not want their chests opened.

"But if they are advised that one treatment gives them a far better chance of being alive and well three years down the line, many would settle for the fact that it means having their chest opened to do the job properly, if it gives them a longer life expectancy."

He said there is no end of data showing CABG superior to PCI, but said this data is consistently ignored, citing as one reason the fact that interventional technology is a $6 billion business.

Forecast for DES

The third presentation in this session was on a completely different topic — drug eluting stent technology — with predictions on how it will evolve in the near future.

Alexandre Abizaid, M.D., Ph.D., F.A.C.C., director of coronary interventions at Institute Dante Pazzanese of Cardiology, Sao Paulo, Brazil and invited professor of medicine at Columbia University, New York, predicted no dramatic changes in drugs for stents. Drugs in the "limus" family continue to be the safest and most effective inhibitors of neointimal formation, he said.

But the future will see more absorbable polymers as well as non polymeric coatings that absorb and release drugs without a polymer, he said. Even more promising will be the appearance of absorbable metal stents.

And soon there will be new stent designs that allow treatment of bifurcations, multivessel disease, saphenous vein graft disease and treatment of small vessels, he said.

"Instead of using a single stent for everything, we might have to select specific stents for specific situations," he said, adding that several new designs are already being tested. ■

Late-Breaking Clinical Trials

ACC.07 Late-Breaking Clinical Trials II, Session 405

Monday, 8:30 to 10 a.m. in Hall A of the convention center

Co-Chairs: Marc Edward Shelton, M.D., F.A.C.C., and James D. Thomas, M.D., F.A.C.C.

- Effect of Torcetrapib on the Progression of Coronary Atherosclerosis
- Carotid B-Mode Ultrasound Evaluation of the Antiatherosclerotic Efficacy of Torcetrapib/Atorvastatin Compared With Atorvastatin Alone in Subjects With Heterozygous Familial Hypercholesterolemia
- The Effect of Torcetrapib/Atorvastatin Compared With Atorvastatin Alone on Carotid Intima-media Thickness in Subjects With Mixed Hyperlipidemia
- Effect of Reconstituted High-density Lipoprotein on Atherosclerosis: Safety and Efficacy (The ERASE Trial)
- The Direct Renin Inhibitor Aliskiren in Combination With the Angiotensin Receptor Blocker Valsartan Provides Additional Blood Pressure-lowering Effects Compared With Either Agent Alone in Patients With Hypertension

ACC.07 Smaller Late-Breaking Clinical Trials II, Session 412

Monday 4 to 5:30 p.m. in Hall A of the convention center

Chair: Christopher M. O'Connor, M.D., F.A.C.C.

- Improved Ten-year Prognosis of Asymptomatic Patients With Documented Silent Myocardial Ischemia Due to Medical Therapy: The Swiss Interventional Study on Silent Ischemia Type I (SWISSI I)
- Who Benefits Financially From Reducing Door-to-balloon Time in STEMI: Payers or Hospitals?
- Blood Pressure Control Is an Independent Predictor of Short-term Mortality in Cardiac Surgery Patients: Analysis From the Three Randomized ECLIPSE Trials
- F-18-Fluorodeoxyglucose Positron Emission Tomography Imaging-guided Management of Patients With Coronary Artery Disease and Severe Left Ventricular Dysfunction: A Randomized Controlled Trial (PARR-2)
- A Phase III International Study to Assess the Safety and Efficacy of Nitric Oxide Synthase Inhibition With Tilarginine Acetate Injection in Patients With Cardiogenic Shock Complicating Acute Myocardial Infarction
- Secondary Prevention Following Coronary Bypass Surgery: A National Randomized Trial

Late-Breaking Clinical Trials III, Session 2409

Monday, 11 a.m. to 12 p.m. in La Nouvelle Orleans C of the convention center

Co-Chairs: Antonio L. Bartorelli, M.D., F.A.C.C., and Giuseppe Sangiorgi, M.D., F.A.C.C.

- Intracoronary Stenting and Angiographic Restenosis: Promote Endothelial Cells With Estradiol (ISAR-PEACE) Randomized Trial
- EXACT 1,500 Registry: Report of United States Multi-center Experience in Carotid Stenting in High Surgical Risk Patients
- Embolic Protection and Platelet Inhibition During Renal Artery Stenting
- A Randomized Controlled Trial for the Prevention of Contrast Induced Nephropathy With Sodium Bicarbonate Versus Sodium Chloride in Persons Undergoing Coronary Angiography (MEENA Trial)

Late-Breaking Clinical Trials Follow-up, Session 2414

Monday, 1:30 to 3 p.m. in La Nouvelle Orleans C of the convention center

Co-Chairs: John M. Lasala, M.D., F.A.C.C., and Pedro A. Lemos, M.D., F.A.C.C.

- Significant Reduction in Mitral Regurgitation Twelve Months Following Percutaneous Mitral Valve Repair: Initial Experience With the MitraClip Device
- A Multicenter, Randomized, Double-Blind, Placebo- and Active-Controlled Trial of the Safety and Effect on Image Quality and Detection of Perfusion Defects in Patients Undergoing Regadenoson Submaximal Exercise Myocardial Perfusion Imaging Versus Adenosine Supine Myocardial Perfusion Imaging (The RegEx Trial)
- A Prospective, Randomized Trial of Bivalirudin in Acute Coronary Syndromes: Final One-Year Results From the ACUITY Trial
- Long-Term Safety of Drug-Eluting Stents in Off-Label Use: Results of the MATRIX Registry
- Low Responsiveness to Clopidogrel and Sirolimus- or Paclitaxel-Eluting Stent Thrombosis (RE-CLOSE) Trial

Technology enhances poster data

The 56th Annual Scientific Session features a groundbreaking interactive educational experience for attendees: V-Poster Presentations, located in Hall H. The "museum audio tour"-style educational activity uses a proprietary mobile technology called RedRoverMobile, and the ACC is one of the first medical associations in the country to bring it directly to its members.

Using mobile phones as the delivery device, RedRoverMobile provides easy and immediate access to a variety of information about posters displayed in the meeting venue.

To access the system, attendees simply call the toll-free number featured on the V-Poster Presentations banner adjacent to each poster tour. They can then listen to Key Opinion Leaders discuss the various intricacies and highlights of the data showcased by this technology. V-Poster Presentations are also available 24/7 at www.cardiosource.com. ■

ACC, SCCT join to meet education needs

As cardiac computed tomography (CCT) has grown as a diagnostic tool, more physicians seek training and competence in its use. At issue has been finding quality education programs that teach the participants, help them reach the required level 2 competency and prepare them for the first CCT certification exams scheduled for July 2008. To meet this demand, the American College of Cardiology Foundation (ACCF) and the Society for Cardiac Computed Tomography (SCCT) have reached a decision to join forces and develop quality CCT education programs.

In 2005, the ACCF, along with the American Heart Association, issued the ACCF/AHA Clinical Competence Statement on Cardiac Imaging With Computed Tomography and Magnetic Resonance. This competence statement sets 1, 2 and 3 competency levels. Physicians who were performing CCT prior to the issuance of the competence statement were initially grandfathered in 2005, but must achieve Level 2 competence levels by the first CCT certification exam.

Other activities that add more pressure to develop consistent, high-quality CCT education programs include the formation of the Certification Board of Cardiovascular Computed Tomography (CBCCT). Organizations that are participating in its formation include the ACC, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions and the SCCT. The CBCCT, which is in the process of being incorporated, will be a freestanding organization. Its mission will be to certify the level of competence that physicians have achieved in interpreting CCT. The target date for their competency exam is 2009.

Another organization now being formed is the Intersocietal Accreditation Commission for CT Laboratories. The plan is to begin offering applications for CT laboratory accreditation in the third quarter of this year. It is expected that as part of the requirements, physicians will have to meet the guidelines for level 2 or level 3 competencies as published in the ACC/AHA Clinical Competence Statement.

These three factors create demand for ACC members to obtain level 2 competency by July 1, 2008. Those who meet the requirements for level 2 competency as outlined in the ACC/AHA Clinical Competence Statement by the deadline will avoid having to spend a minimum of eight weeks in a training program.

The ACCF/SCCT plan is to offer the educational programs in two phases. Phase I, which is scheduled to begin July 1, will focus on meeting physician demand to acquire level 2 competency prior to the July 2008 deadline, or July 2009 if the exam is delayed. Phase 2 educational content will transition from meeting the minimum requirement to maintenance of certification.

The ACCF/SCCT agreement to work together in this crucial area not only serves members and other physicians, it also supports the College's mission of turning cardiovascular knowledge into practice by communicating the latest advances in CCT, which will result in improved cardiovascular care and practice. ■

Young Investigators to present today

Be sure to support the profession's future clinical investigators by attending the Young Investigators Awards competition today. All three competitions take place in Room 228. The first competition category — Physiology, Pharmacology and Pathology — takes place from 9 to 10:15 a.m. Topics and lead investigators are:

- Mechanism of Ventricular Fibrillation in the Aged Hearts Exposed to Glycolytic Inhibition: A New Model of Sudden Cardiac Death, Norishige Morita, M.D.
- Dissociation of Aldehyde Dehydrogenase Activity From Nitrate Effect, Bioconversion and Tolerance in Humans, Andrew C. Philpott, M.D.
- How Long Does Sympathetic Activation Persist After Submaximal Exercise in Subjects With Coronary Artery Disease? Norman Wang, M.D.
- Increased Risk of Incident Stroke Associated With the Cyclooxygenase 2 G-765C Polymorphism in African-Americans: The Atherosclerosis Risk in Communities Study, Shun Kohsaka, M.D.
- Myocardial Regeneration Through Periostin-induced Cardiomyocyte Proliferation, Bernhard Kuhn, M.D.

The second session — Molecular and Cellular Cardiology — runs from 11 a.m. to 12:15 p.m. Topics and presenters are:

- Vasp Phosphorylation Analysis Predicts Ischemic Recurrence in Patients Undergoing Coronary Angioplasty, Laurent Bonello, M.D.
- Kruppel-Like Factor 4 Regulates Endothelial Inflammation, Anne Hamik, M.D.
- Effect of Cell Based Intercellular Delivery of GATA-4 on Ischemic Cardiomyopathy, Jing Bian, M.D.
- Tetrahydrobiopterin-dependent eNOS Coupling Determines Vascular Remodeling Through Accelerated Endothelial Regeneration, Ziad A. Ali, M.D.
- Role of Adiponectin in the Development of Chronic Heart Failure,Yasuhiro Izumiya, M.D.

The final session — Clinical Investigations, Congenital Heart Disease and Cardiovascular Surgery — is from 2 to 3:15 p.m. Topics are:

- Quantitation of Myocardial Infarct Size by Cardiac Magnetic Resonance Imaging Predicts Future Cardiovascular Events in Patients with Severe Ischemic Cardiomyopathy, Hajime Yokota, M.D.
- Mechanism of Coagulum Formation in Radiofrequency Ablation and a Novel Method to Prevent It, Bernard B. Lim, M.D.
- Anticoagulation After Anterior Myocardial Infarction and the Risk of Stroke, Jacob Allan Udell, M.D.
- Temporary Cardiac Resynchronization Therapy for Post Operative CABG Patients With Left Ventricular Dysfunction, Kenneth C. Civello Jr., M.D.
- External Prognostic Validations and Comparisons of Age- and Gender-Adjusted Exercise Capacity Predictions, Soo Hyun (Esther) Kim, M.D.

The first place winner for each category receives $2,000; second place winners receive $1,000; three honorable mentions in each category receive $500. ■

Smaller LBCTs examine therapies for CVD

Researchers presented the results of smaller late-breaking clinical trials Sunday that examined a variety of therapies for cardiovascular disease, ranging from diets to peroxisome proliferator-activated receptors (PPARs).

Here is a summary of the trial results:

A study of the efficacy and safety of a potent new PPAR-alpha agonist, LY518674, as monotherapy for patients with dyslipidemia or in combination with statins for patients with hypercholesterolemia

The study found that in patients with dyslipidemia, the novel PPAR agonist decreased triglyceride levels and increased high-density lipoprotein (HDL) cholesterol levels compared with placebo but also increased low-density lipoprotein (LDL) cholesterol levels and showed evidence of worsening kidney function. In patients with hypercholesterolemia, LY5 reduced triglycerides and increased HDL, but did not further reduce LDL in combination with atorvastatin.

The effects of LY5 were compared with those of fenofibrate in patients with dyslipidemia. The dyslipidemia study found that fenofibrate increased LDL levels by 2.3 percent while LY5 increased LDL levels by 18.3 percent in patients given 50 µg and by 19.5 percent in patients given 100 µg. Fenofibrate increased HDL by 14.4 percent, but LY5 showed an unusual dose-response pattern, with the lowest dose (10 µg) yielding a modest increase (9.6 percent) in HDL and the 25 µg dose yielding the maximum increase (15.8 percent). Both agents raised safety concerns.

A comparison of the American Heart Association low-fat, low cholesterol diet with a Mediterranean-style diet rich in fish, monounsaturated fats and other sources of omega-3 fatty acids found the two diets had similar beneficial effects in terms of cardiovascular disease outcomes after a first myocardial infarction.

After nearly four years of study, both diets were associated with similar rates of death, repeat myocardial infarction, unstable angina, stroke or hospitalization for heart failure. In addition, the study found that dietary intervention with either diet improved cardiovascular disease outcomes after myocardial infarction compared with usual care.

The Atorvastatin for Reduction of Myocardial Damage during Angioplasty-Acute Coronary Syndromes (ARMYDA-ACS) study evaluated the effect of atorvastatin pretreatment in patients with acute coronary syndromes undergoing angioplasty and concluded that even short-term treatment prior to percutaneous coronary intervention may improve outcomes in patients with unstable angina and myocardial infarction.

The endpoints of the study were major adverse cardiac events, such as death, myocardial infarction and target vessel revascularization, from the time of the procedure up to 30 days afterward. Patients given pretreatment atorvastatin had more favorable survival rates, mostly driven by a reduction in myocardial infarction rates.

The Study of Atherosclerosis with Ramipril and Rosiglitazone (STARR) examined the effect of these two agents on progression of subclinical atherosclerotic disease in patients without cardiovascular disease but at high risk for diabetes who were overweight or obese. Progression was measured by carotid intima media thickness (CIMT).

The study found that both agents significantly lowered blood pressure, but the angiotensin-converting-enzyme (ACE) inhibitor ramipril had no significantly different effect on CIMT progression compared with placebo. However, the antidiabetic thiazolidinedione agent rosiglitazone significantly lowered the progression of CIMT in prediabetes patients without cardiovascular disease.

The METEOR trial evaluated the effects of rosuvastatin therapy in slowing carotid artery plaque buildup in asymptomatic patients at low risk for cardiovascular disease and found that even in very low risk individuals with modest elevations in LDL cholesterol and mild subclinical atherosclerosis as measured by CIMT, rosuvastatin slowed the rate of CIMT progression.

Patients were randomized to 40 mg rosuvastatin daily or placebo. Rosuvastatin therapy was associated with a 49 percent reduction in LDL levels and an 8 percent increase in HDL levels. When the common carotid segment was evaluated, the rosuvastatin group also experienced significant plaque regression compared to baseline.

In a post hoc analysis of the EPHESUS trial among patients with acute myocardial infarction, left-ventricular dysfunction and heart failure, researchers looked at the effect of early administration of the aldosterone blocking agent epleronone at three to seven days after myocardial infarction versus later administration (eight to 14 days) on all-cause mortality, cardiovascular mortality or cardiovascular hospitalization, and sudden cardiac death.

The study found that patients given epleronone early had significant reductions in all-cause mortality (23 percent) and sudden cardiac death (37 percent) compared with the group treated after seven days. There was no significant difference in outcomes in the late-treated group compared with placebo. ■

Experts put cardiac CT into perspective

Cardiac computed tomography has become a staple for interventional cardiologists. While the landscape holds great promise, navigation has become difficult. In addition to having many technological options to choose from, physicians must deal with issues of calcification and be mindful of radiation exposure when making a diagnosis.

Experts in cardiac CT distilled the issues down to the nuts and bolts during an i2 Scientific Session Sunday.

Talking the talk

Acronyms are inherently part of an interventionalist cardiolgist's vernacular, so taking on the talk of cardiac CT is part and parcel to their environment. Beyond MIP (maximum intensity projection), MPR (multiplanar reformation) and CPR (curved multiplanar reformation), there's SSD (shaded surface display) and VRT (volume rendering technique).

For John A. Rumberger, Ph.D., M.D., F.A.C.C., the issue is to provide a technique that results in an acceptable clinical utility.

The versatility of cardiac CT allows for transaxial images and the ability to "cut out" out images for viewing, noted Dr. Rumberger, medical director of the HealthWISE Wellness Diagnostic Center, Dublin, Ohio, and a clinical professor of medicine in the division of cardiology at the Ohio State University, Columbus.

With SSD and VRT, physicians gain band display of the anatomy and preservation of 3-D depth, but VRT provides color band display.

Dr. Rumberger's technology of choice is MPR. It can be rotated on a single plane or a ray sum, and it displays the maximum voxel density along any given ray perpendicular to the chosen plane.

Walking the walk

With this technology comes the problem of calcium scoring, and William Guy Weigold, M.D., F.A.C.C., described protocols for performing calcium scoring and cardiac CTA.

Once appropriate indications for a coronary CTA have been proven, it's important for a nursing staff member to spend time preparing the patient, which includes coaching the patient regarding food and liquid intake prior to the scan and breathing requirements before and during the scan, said Dr. Weigold, director of cardiac CT at Washington Hospital Center, Washington, D.C.

He recommends that physicians pay close attention to proper scanning acquisition and optimization of image reconstruction during the process.

In addition to describing protocols for beta blocker and nitroglycerine use, Dr. Weigold discussed the elements of acquisition, including field of view, collimation of pitch, slide width, tube parameter, dose modulation, opacification and image reconstruction.

Reducing radiation exposure

With the increased use of CT come concerns regarding radiation exposure levels, and James Min, M.D., F.A.C.C., described dose reduction strategies for cardiac CT imaging.

Recent studies show that cardiac CT can emit high rates of radiation — between 6 mSv and 14 mSv, said Dr. Min, director of cardiac computed tomography laboratory at Weil Medical College of Cornell University Medical Center/New York-Presbyterian Hospital.

"In the course of a year, the average person is exposed to about 3 mSv," he said.

One method for lowering the dose is prospective axial gating, said Dr. Min, pointing to one study of 500 patients that demonstrated dose ranges from 0 mSv to 6 mSv versus 7 mSv to 21 mSv with a conventional helical scan.

Rendering a diagnosis

Once the scan is complete, interpreting the images to make a diagnosis can be overwhelming.

Maximizing the potential for success through patient selection and preparation, making the most of the images post-processing and communicating the findings is paramount, said Thomas Berger, M.D., F.A.C.P., F.A.C.C., F.A.H.A., associate professor of medicine and radiology at the Mayo Clinic, Jacksonville, Fla.

When selecting patients, physicians should consider excluding patients in whom an abundance of calcium is likely to be present, such as those over age 75, those with known CAD and those with coronary stents of less than 3 mm, he said.

Patients with a lot of coronary artery calcification will lead you to overestimate the presence of stenosis, Dr. Berger said.

After interpreting the findings, it's imperative that physicians avoid a "10-line" summary paragraph and diligently document their findings.

Weeding through the scan

Stephan Achenbach, M.D., F.A.C.C., assistant professor of medicine at the University of Erlangen-Nuremberg, Germany, showed participants how to use and interpret the technology.

While a typical scan results in between 200 and 350 very thick slices, he easily moved through the data set, moving along portions of the imagery to show the ascending aorta, left coronary artery, right coronary artery.

Another helpful tool, multiplanar reconstruction, allows the user to bring in another plane for an alternate angle view, said Dr. Achenbach, who then turned the image to view the ostium. ■

Heart Songs teaches attendees to ID sounds

Attendees of the ACC.07 and i2 Summit have an opportunity to enhance their skills in identifying heart sounds at a unique workshop, Heart Songs multimedia program developed by Michael J. Barrett, M.D., F.A.C.C., of Temple University.

Individual computer stations in the workshop allow participants to work at their own pace, listening to audio recordings of seven heart sounds while reviewing related information on posters. A pre-test and a post-test enable participants to evaluate their improvement.

The concept of the Heart Songs program is based on psychoacoustics, or the scientific study of the perception of sound. According to psychoacoustics, intensive repetition of a sound improves proficiency in identifying it. Studies have shown that the rate of recognition of a new sound can increase from 10 percent to 85 percent after it has been heard hundreds of times.

The workshop program involves audio recordings (on M3P players) in which each of the seven heart sounds is repeated 200 times. Participants listen to the recording while reviewing graphical information displayed on posters. Each poster board depicts several figures related to a heart sound, such as phonocardiograms, anatomical illustrations, echocardiograms and photographs depicting optimal positions for auscultation.

The heart sounds on the recording are interspersed among explanations of the figures.

"We've used an existing visual cue that's familiar and tied it to an audio cue that's new. The goal is to reintegrate what [participants] know in a new way," Dr. Barrett said.

That breaking up the repetition of the heart sounds with educational material better engages participants, he said.

The success of the program has been demonstrated with medical students.

"We use Heart Songs for first-, second- and third-year medical students at Temple University, and more than 90 percent of them are able to identify heart sounds after completing the program," said Dr. Barrett.

This percentage compares with 20 to 30 percent of the general population of medical students and residents. According to the statistics provided in the workshop overview, 40 percent of internists and 80 percent of cardiologists can accurately identify heart sounds.

The seven sounds included in the workshop are mitral regurgitation, aortic stenosis, innocent systolic murmur, aortic regurgitation, mitral stenosis, S4, and S3. Dr. Barrett said that the seven sounds are the most common heart sounds. He adds that the sounds include the five basic murmurs; all other sounds are variants of these five.

The complete library of 20 heart sounds that Dr. Barrett has developed is available on Cardiosource (www.cardiosource.com/heart-sounds/index.asp). Also available is a three-CD program that includes education on basic, intermediate, and complex heart sounds as well as interactive quizzes.

The conference workshop is the first time that Heart Songs has been offered at an ACC conference or other professional meeting, says Dr. Barrett. He adds that he is pleased with the participation in the workshop on its first day; more than 100 individuals completed the program on Sunday morning. Heart Songs will be available on Monday from 7 a.m. to 5 p.m., and Tuesday from 7 a.m. to 3:30 p.m. in Room 226 of the convention center. ■

Heart Songs participants use headphones to listen to audio files while working at computers to learn to identify heart sounds.

Laptops were lined up for learners during Sunday's VIVA program

i2 participants log on with Laptop Learning

With the quick typing of their names and passwords, attendees of Sunday's VIVA@i2 Laptop Learning Program were logged on and geared up for a day of interactive learning.

Attendees sat at long tables, where Laptop Learning computers were at the ready for their participation. Without stopping a session, users could securely and privately interact with faculty on stage in real time, while live case demonstrations and presentations were being made.

While this novel approach intrigued Greg Von Mering, M.D., F.A.C.C., an interventional cardiologist at Monroe Regional Medical Center, Ocala, Fla., he also signed up for the program because of his interest in peripheral vascular management.

"I look forward to seeing how this plays out," he said. "All of the topics are very pertinent to the major disease classes that we treat on a regular basis."

Another participant appreciated the mechanism for submitting questions.

Hasana O'Neal, a physician assistant at Cooper University Hospital, Camden, N.J., said she queried the panel about the follow-up care of peripheral interventions in the SFA.

"I liked having the ability to ask questions during the lecture," she said. "It gave it a more interactive feel."

Whenever attendees put forth similar questions, panelists could earmark them to be brought before the lecturer or live case presenter.

"When everyone asks the same question, we can frame the teaching to the audience, which makes for a very fast-moving target and allows participants to post questions in real time," said moderator Tony Das, M.D., F.A.C.C., director of Peripheral Vascular Interventions at the Presbyterian Heart Institute, Dallas.

When such frequent questions arose, faculty could develop a polling question on the topic for audience response and ultimate release of the responses. And queries could even be anonymous, if the person submitting the question so wished.

The Laptop Learning computers were stocked with several other tools, including faculty information, a resource and a device library, anatomy slides and the presentations.

More cardiologists are branching out into areas other than cardiology, specifically peripheral vascular medicine, said VIVA President James D. Joye, D.O., F.A.C.C.

"This collaborative relationship between VIVA and ACC allows us to bring our expertise to the i2 arena. We've condensed the material into a high-content day's worth of programming covering the gamut of peripheral procedures and topics of interest to attendees," said Dr. Joye, director of Cardiac Catheterization at El Camino Hospital, Mountain View, Calif.

The day included two live case demonstrations from the Ochsner Clinic, two VIVA case presentations, and presentations on renal embolic protection, peripheral arterial embolic protection, carotid artery embolic protection, acute limb ischemia, chronic total occlusions of the superficial femoral artery, infrapopliteal interventions in chronic critical limb ischemia, intervention for venous thromboembolism, next generation tent technologies, drug elution in superficial femoral artery intervention, and atherectomy. ■

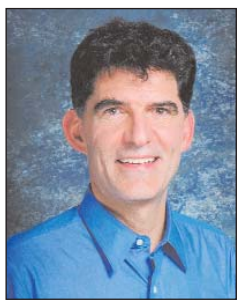
Let Riverwalk enhance your experience

New Orleans' Riverwalk, on Julia Street adjacent to the convention center, is ready to welcome attendees Monday. Join the Riverwalk Jazz band as it strolls through the Food Court from 12 to 2 p.m., enjoy the variety of food selections and visit the unique stores.

Bishop lecturer to address HDL therapeutics

Daniel J. Rader, M.D., will deliver the 38th Bishop Lecture from 11 a.m. to 12 p.m. Monday in Room 265 of the convention center.

Dr. Rader, the director of preventive cardiovascular medicine at the Philadelphia Heart Institute, University of Pennsylvania, will deliver an address titled, "Targeting HDL to Prevent Coronary Disease: Where Do We Go From Here?" He will cover the different approaches to developing new therapeutics targeted to HDL metabolism and function and what the future of HDL therapeutics is likely to be.



Daniel J. Rader, M.D.

"Despite treatment advances, coronary artery disease remains the major cause of death, and new therapies are needed," Dr. Rader said. "High-density lipoprotein cholesterol is a natural target for new therapies given the extensive epidemiologic research linking HDL-C levels inversely to coronary artery disease, as well as the extensive body of animal data suggesting that targeting HDL reduces atherosclerosis. However, human data are scarce."

The recent halting of the ILLUMINATE trial of the cholesteryl-ester transfer protein (CETP) inhibitor torcetrapib due to increased mortality despite a greater than 50 percent increase in HDL-C has raised questions not only about CETP inhibition but also about the overall strategy of targeting HDL for therapeutic purposes. Additional data on torcetrapib and atherosclerosis imaging will be presented at this ACC meeting Monday morning prior to the Bishop lecture.

Dr. Rader's lecture will address the specific issues related to torcetrapib and CETP inhibition, and then he will turn to the broader issue of targeting HDL therapeutically in the aftermath of ILLUMINATE.

Louis F. Bishop, M.D., was president of the ACC in 1960 and conceived the idea of establishing endowed lectureships named for presidents and important officers of the College and inviting speakers from around the world as lecturers. In 1970, Crawford Failey established the lectureship to honor Dr. Bishop.

Before his death in 1986, Dr. Bishop, whose home and office were in New York, was a member and fellow of several professional associations and a founder of the American College of Sports Medicine. ■

Scientific Session News in Brief

ACC Central theater schedule

MONDAY

11 to 11:30 a.m.
NCDR™ CARE Registry™ Presentation: Acute Coronary Syndromes
Christopher P. Cannon, M.D., F.A.C.C., and Ralph G. Brindis, M.D., F.A.C.C., chief medical officer, NCDR™
12 to 12:30 p.m. and 3 to 3:30 p.m.
Epocrates® Essentials for Cardiology
Chi-Ming Chow, M.D.C.M., M.Sc., F.R.C.P.C., F.A.C.C.
1 to 1:30 p.m. and 4 to 4:30 p.m.
ACC Interactive Pocket Guides 101 — PDAs and Beyond
Ashok Mayya, Sr., director of business development, Skyscape

TUESDAY

11 to 11:30 a.m.
ACC Interactive Pocket Guides 101 — PDAs and Beyond
Ashok Mayya, Sr., director of business development, Skyscape

Get ready for Convocation Monday

The College's annual Convocation will be held at 6:30 p.m. Monday in the Grand Ballroom at the New Orleans Marriott, 555 Canal Street.

For the Convocation, new Fellows will assemble at the hotel in the Mardi Gras Ballroom D & E at 5:30 p.m.

In preparation, all fellowship candidates must sign the Convocation Register in the Gown and Hood office, adjacent to Registration at the convention center by noon Monday.

The Convocation office will be open from from 8 to 11 a.m. Monday. Only for those candidates who sign the register by 12 p.m. Monday, certificates will be available immediately following the ceremony.

Evaluate and obtain credit certificates

Evaluate your overall ACC Annual Scientific Session experience at individual sessions and of program faculty.

All Annual Scientific Session participants, except those in Nonmedical, Practice Administrator, Family Member, Exhibitor and Exhibits Only categories may print their certificate for Evaluations and Credit Certificates starting March 30.

Certificates can be printed anywhere you have Internet access. Go to www.acc.org and look for the link to the ACC.07 evaluation/credit system. Enter your last name and badge number to access the system.

NISSEN

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Our new Door-to-Balloon initiative, which emanated from the new physician leadership, has focused public attention around a huge problem. You want a large organization like the College to focus on such an important health care issue, but I think this initiative will end up becoming a tremendous public landmark, also.

Obviously, the decision to expand to the new journals represents a huge initiative, a project near to my heart because I had initially proposed the concept. This effort, led by Eugene Braunwald, M.D., M.A.C.C., is well on its way. We have chosen the new editors in chief and the new journals will launch in January 2008.

'Our new Door-to-Balloon initiative, which emanated from the new physician leadership, has focused public attention around a huge problem.'
Steven E. Nissen, M.D.

In our advocacy efforts, we were able to pull out an 11th hour victory in avoiding the draconian SGR cuts, although we have more to do in that effort, and our ACC PAC finally took off this past year and has grown substantially.

Also, the ACC's National Cardiovascular Data Registry (NCDR™) has continued to add new registries to meet our profession's needs for information.

Finally, it was wonderful to be a part of the i2 Summit launch this year because I was very involved in developing this concept. Last, we are announcing at this meeting the tremendous success we have had with the Campaign for the Future thus far.

What lies ahead for the ACC?

The ACC will continue growing and changing to meet the needs of its members as it should. One of the most exciting things for the ACC is that each new group of leaders brings new dimensions to the College, based on his or her experiences and interests. I was very passionate about the new journals. I think Jim Dove is equally focused on electronic health records and quality issues. New leaders bring their passions that engender a re-examination of ACC's agenda and result in a strengthening of our mission.

Thanks for a good year

It's tough to single out specific people to thank, but I would say someone who has been exceptional has been Pat Gooch, who is my assistant in Cleveland. She is efficient, well-organized and keeps me focused.

I think we owe a big thanks to Tom Arend, who took over the College as interim chief staff officer while we were interviewing for a new CEO, and remains as ACC's Chief Operating Officer and general counsel. I am also grateful to the ACC division vice presidents and senior leadership team who stepped up to the plate during the transition. What's remarkable is that the College didn't really miss a beat during this time.

I would also like to thank Sue Sears Hamilton and all the people who plan and execute the annual meeting. They knew going into the year that we were facing an uphill battle with returning to New Orleans after Hurricane Katrina. They rose to the occasion, and we are experiencing an outstanding meeting. ■

Panelist Douglas L. Mann, M.D., F.A.C.C., makes a point during the ACC Late-Breaking Clinical Trials I Sunday as fellow panelist Mariell Jessup, M.D., F.A.C.C., listens.

ACC LBCT

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the cardiac intensive care unit at Fondazione Policlinico San Matteo, Pavia, Italy.

EVEREST trial

The results of the EVEREST trial demonstrated that patients with acute decompensated heart failure may benefit from therapy with a vasopressin receptor antagonist, said the study's presenter, Marvin A. Kontam, M.D., F.A.C.C., chief of cardiology at Tufts-New England Medical Center and professor of medicine at Tufts University School of Medicine, Boston.

EVEREST (Efficacy of Vasopressin Antagonism in Heart Failure: Outcome Study with Tolvaptan) evaluated the safety, short-term clinical impact and long-term clinical outcomes of therapy with 30 mg per day of the oral vasopressin receptor antagonist tolvaptan among more than 4,000 New York Heart Failure class III or IV patients with an ejection fraction of less than 40 percent and signs of volume overload who were treated within 48 hours of hospitalization.

The international, randomized, placebo-controlled study conducted at 359 centers in 20 countries found that tolvaptan therapy had no statistically significant effect on all-cause mortality, cardiovascular mortality and/or hospitalization for heart failure compared with placebo.

However, Dr. Kontam and his fellow researchers did find that tolvaptan therapy resulted in significant reductions in body weight and improvements in dyspnea and edema.

"In well-treated patients hospitalized with heart failure, oral tolvaptan 30 mg daily facilitates the management of volume overload with early and sustained weight reduction, improvement in dyspnea and edema but no effect on global clinical status by visual analog scale at day 7 discharge. It was associated with normalization of serum sodium and with maintenance of renal function," Dr. Kontam said.

FUSION II trial

Clyde W. Yancy, M.D., F.A.C.C., presented the results of the FUSION II (Follow-Up Serial Infusions of Nesiritide in Advanced Heart Failure) trial, which explored the role nesiritide, a recombinant form of human B-type natriuretic peptide, in the treatment of patients with chronic decompensated heart failure.

FUSION II was a follow-up study to the FUSION I pilot study, and it was designed to prospectively evaluate the efficacy and safety of outpatient nesiritide infusions among 920 patients with advanced heart failure (stage D). The patients received infusions of this agent for four to six hours once or twice weekly, or a placebo, for 12 weeks.

These patients also received the latest evidence-based medical and device therapy and precise disease management. The events rates in FUSION II were found to be 33 percent lower than those seen in FUSION I, but this result was likely due to improvements in the background therapy and medical care made between FUSION I and FUSION II, Dr. Yancy said.

"Serial administration of outpatient nesiritide infusions was not shown to be significantly beneficial in the context of excellent care," said Dr. Yancy, medical director of the Baylor Heart and Vascular Institute and chief of cardiothoracic transplantation at Baylor University Medical Center, Houston.

"The most important clinical message from FUSION II is that adherence to guideline-driven therapy and meticulous follow up defines the benchmark of care for patients with chronic decompensated stage D heart failure," he said.

VALIDD trial

The VALIDD (Valsartan in Diastolic Function) trial was the first large randomized, double-blind trial to evaluate the influence of blood-pressure lowering with an angiotensin-receptor blocker (ARB) on diastolic function in patients with mild hypertension and diastolic dysfunction.

"Diastolic dysfunction may represent an important pathophysiologic intermediate between hypertension and heart failure, and thus a potential target for preventive intervention," said the study's presenter, Scott D. Solomon, M.D., F.A.C.C., director of noninvasive cardiology at Brigham and Women's Hospital and Harvard Medical School, Boston.

The trial, which was conducted at 41 centers in the United States and Canada, randomized 384 patients with hypertension and diastolic dysfunction to receive either the renin-angiotensin-aldosterone system inhibitor valsartan to lower blood pressure or standard therapy to lower blood pressure, such as with diuretics, beta-blockers or calcium channel blockers.

Using Doppler tissue imaging, Dr. Solomon and his colleagues compared changes in diastolic relaxation velocities between baseline and 38 weeks of therapy. From baseline to follow up, the researchers observed a greater than 10 mmHg reduction in blood pressure in both treatment groups. Diastolic function improved significantly in both groups.

"These findings, we believe, suggest that one of the benefits of treating hypertension may be to improve diastolic function, even in patients with mild hypertension, and it offers a potential mechanism by which blood-pressure lowering may reduce the risk of manifesting heart failure," Dr. Solomon said. ■

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"But as far as using these protection devices on a routine basis, the story is pretty much done," he said.

Mesenchymal stem cell therapy successful

Patients in a phase-I double-blind randomized, placebo-controlled dose-ranging trial of mesenchymal-cell infusion after acute MI experienced improvements in heart function at six months followup, as well as lower rates of adverse events, reported Joshua M. Hare, M.D., F.A.C.C., chief of cardiology, University of Miami Miller School of Medicine, Miami.

Dr. O'Neill noted that this was a first-in-man use of mesenchymal cell therapy. He noted that this product could reach clinical use quite soon, which would lead to increased funding for stem cell research in heart disease.

Osiris Therapeutics, Inc., sponsored the trial. The stem cells were cultured from whole bone marrow.

"The idea that you can actually stimulate the heart to heal itself after MI is very new and has enormous implications," Dr. Hare said.

The trial included 53 patients, 34 of whom were infused with allogeneic mesenchymal stem cells intravenously within 10 days of an acute MI, and 19 of whom received placebo.

Each of three doses — 0.5 million, 1.6 million and 5.0 million cells/kg — was compared with placebo.

Over a six-month period, stem cell-infused patients had lower rates of major adverse coronary events and had significant improvements in heart, lung and global function, Dr. Hare said. There was no increase in ectopic tissue formation or events suggesting immunologic reactions.

And there was provisional evidence of improved ejection fraction, more evident in anterior MI patients.

In terms of therapy, mesenchymal cells have the advantage of being easy to prepare. Dr. Hare said these cells have the capacity to home to areas of injury. In animal models the cells home to regions of MI, reducing infarct size and improving ejection fraction.

Dr. Hare said adverse events were not dose-related, and arrhythmia data favored the mid-dose threshold.

"We set out to establish safety so this field could move forward, and we think we went beyond safety and actually showed provisional evidence of efficacy," he said.

Dr. Hare said he wouldn't want to conclude anything at this stage about the efficacy, "but the results of the study strongly support spearheading the movement of this product into other clinical trials."

Skeletal myoblasts improve quality of life, cardiac function

The first randomized, controlled U.S. trial of catheter-based delivery of autologous skeletal myoblasts for ischemic cardiomyopathy found the transplantation feasible and safe, said Nabil Dib, M.D., F.A.C.C., director, clinical cardiovascular cell therapy, University of California, San Diego.

"Improvements in patient quality of life and cardiac function suggest reversal of LV remodeling," Dr. Dib said.

The phase-I trial included 23 patients with a history of ischemic congestive heart failure and an LVEF of below 40 percent. Eleven patients received optimum medical therapy alone and 12 were assigned to escalating doses of the skeletal myoblasts.

Dr. Dib reported that at six months, echo analysis of end-diastolic diameter decreased by 1.8 mm in the myoblast-treated patients but increased by 2.9 mm in the medical treatment group.

DELTA trial

And a trial testing the protein kinase-C inhibitor KAI-9803 found that it ameliorates reperfusion injury during PCI for acute STEMI.

Matthew T. Roe, M.D., F.A.C.C., Division of Cardiovascular Medicine, Duke Clinical Research Institute, Duke University Medical Center, said there is a need for more adjunctive therapies for these patients since mortality rates are still high during hospitalization despite the increased use of reperfusion therapy.

The adjunctive therapy Dr. Roe described was tested in 154 patients in the DELTA MI Trial undergoing primary PCI. Dr. Roe said KAI-9803 had an acceptable safety profile, and it also demonstrated a favorable impact on multiple markers of reperfusion success with consistent reductions in CK-MB AUC and ST recovery AUC.

There was also less myocardial necrosis with reduced infarct size at the 0.5 mg and 1.25 mg dose levels.

"We feel this is worth testing in larger studies to understand the definitive impact of this therapy and how it potentially could improve outcomes in patients with STEMI," Dr. Roe said. ■

Plasma screens add dimension to e-Posters

The Scientific Session poster presentations have taken a giant step into the electronic age with the addition of plasma screens to display electronic posters in Hall I of the convention center.

The e-posters feature presentations in imaging, diagnostic testing and electrophysiology, where animated displays hold the potential to better illustrate research, according to those viewing and presenting posters.

"I'm very interested in looking at these

An e-poster presenter discusses research with attendees as graphics are displayed on a plasma screen in Hall I of the convention center.

posters in an electronic format," said Barb Bittell, R.N. "For moving images, this format really enhances the presentation. I also think the graphs get more dimension in an electronic format than on paper."

Presenter Hingo Hosogi, M.D., agreed that the electronic format on plasma screens helps to enhance some images, such as his poster's series of scans used in the treatment of stenosis.

"This shows very good detail," Dr. Hosogi said pointing to the scans that showed blocked passages in a higher resolution. "This is the good part of the electronic format. It does not work as well with words."

That is the reaction of some attendees who said they prefer to see an entire presentation at one time without following through a series of screens one at a time.

Neil Schachter, M.D., suggested that posters could be presented in both formats.

"The screens work best with figures that require animation," Dr. Schachter said. "It might be interesting to see how the posters next to the screen would work."

Bittell, though, said she likes the idea of seeing one screen at a time versus seeing an entire poster.

"With paper posters, there can be sensory overload," she said. "I like the idea of seeing one section at a time so you can concentrate on it."

Presenter Janet K. Han, M.D., said that working out some of those details is what early users of e-posters need to adjust to.

"The idea is very good," Dr. Han said. "There were some problems, but I would totally do this again with a few improvements."

Gabe Bleeker, M.D., agreed that the electronic format is ideal for moving images, but also sees another advantage.

"This is almost between a poster and a regular presentation," Dr. Bleeker said. "I think this holds potential to fill that area." ■