Outside the Core … Or, Getting BCVS into the November Sessions Program

In this installment of Connections, I thought the BCVS membership would benefit from an “inside peek” at how the Scientific Sessions program is set up and what we are doing as a Council to make sure our research gets appropriate recognition and placement at the big November meeting. To ensure that each meeting improves upon the basic science presented, BCVS sent a highly talented delegation to the Committee for Scientific Sessions Planning (CSSP) in Dallas comprised of Joseph Wu, Thomas Vondriska, Gerald Dorn, Bjorn Knollmann, Yibin Wang, Robert Ross and Cam Patterson. This triples the number of representatives we sent last year and allowed for much greater participation in vying for “horizontal integration” of BCVS research throughout each of the seven core areas. The process is a complex, delicate and challenging negotiation hammered out in a couple of days with representatives from all AHA councils. But rather than me explain it, I have prevailed upon Tom Vondriska to summarize his impressions of the meeting. I found his insights illuminating and hope they will prompt BCVS members to consider how representation of our program can be even better in 2012.

Just a quick detour to remind everyone about the phenomenal program being organized for the BCVS 2011 Scientific Sessions in New Orleans at the lovely Ritz-Carlton Hotel nestled next to the French Quarter. We will be there for the most exciting three days of cutting-edge basic and translational cardiovascular research. Co-organizers Joshua Hare and Junichi Sadoshima have assembled a stellar cast of speakers and new program facets to encourage young investigators, trainees and international participants to get into the mix. The theme is “From Concept to Clinic – Leading Translational Cardiovascular Science.” You’ll find more outstanding science than you can handle with opportunities to socialize, network and relax in the convivial New Orleans atmosphere. You don’t want to miss this and then hear “You should have been there!” over and over for the rest of the year. So visit my.americanheart.org/bcvssessions to register today and get more information.

And now without further ado, here’s Tom’s erudite synopsis of CSSP 2011:

Several members of the Basic Cardiovascular Sciences Council were dispatched to Texas in January for the AHA CSSP meeting, the charge of which is to generate the “invited” portion of the scientific program for Scientific Sessions 2011. As you are all aware, the AHA restructured (in 2008) the program into seven cores: 1, Cardiovascular Imaging; 2, Epidemiology and Prevention of CVD: Physiology, Pharmacology and Lifestyle; 3, Genetics, Genomics and Congenital CV Disorders; 4, Heart Rhythm Disorders and Resuscitation Science; 5, Myocardium: Function and Failure; 6, Vascular Disease: Catheter-Based and Surgical Interventions; and 7, Vascular Disease: Biology and Clinical Science. Whether this reorganization offers individual attendees a more or less obvious home for their research is a matter of personal preference and a point that may be moot: the cores are, for the foreseeable future, here to stay and present a new challenge for integration of “basic science,” the hallmark of our Council, into the program. A friendly reminder, and indeed salient observation from the CSSP meeting, is that there is no equivalence between Councils of the AHA and cores in the Sessions program, and thus members of the former are essentially competing for the content of the latter.

The briefest didacticism of the CSSP meeting is as follows: Step 1, attendees from the previous year’s Sessions submit suggestions online for the types of talks presented in the subsequent year (if you attended last year, you received an e-mail soliciting this—we will return to the importance of responding in a moment), which are plenaries, special sessions (“mini-plenaries”), ask the experts/how-to, Sunday morning sessions and cardiovascular seminars; Step 2, having reviewed these community submissions, members of the CSSP panel—approximately 60 people from various Councils divided into subgroups amongst the seven cores—convene and select plenaries and special sessions, one per core; Step 3, aforementioned plenary/special selections are vetted to the CSSP chairs and the other cores; Step 3.5, other suggestions for plenaries/specials are solicited from the floor and receive (essentially) equal consideration with those formulated by individual cores; Step 4, a quasi-democratic vote by the
Entire panel yields the seven plenaries and seven special sessions that will make it into the program; and Step 5, all members return to their cores to fill in the remaining ask the experts/how-to, Sunday morning and cardiovascular seminars, of which all cores receive equal number and the content of which receives formal editorial input from neither the entire panel nor the CSSP chairs. Abstract poster and talk slotting occurs in a separate, smaller and ostensibly more insular (with respect to cores) meeting in the summer.

The most effective way to make a case for broad BCVS representation across cores is for the BCVS community to submit session ideas to all cores after the November meeting. Cores 3 and 5 have robust submissions but BCVS contribution to the remaining cores was quite paltry this year; as an example, one of the cores had only one session submitted from the BCVS Council out of more than 130 total sessions in that core. Thus, infiltrating all cores will require that we are more creative with integrating clinical, epidemiological, nutrition, population, surgical, device and/or imaging speakers into our session suggestions for the meeting. “Such cross-core” ideas were those most often successful, as the individual core breakout groups were invariably heterogeneous in their scientific skillset (and were not all from the same Council).

This year’s BCVS cadre at CSSP, then, attempted to overcome the default BCVS core assignments by a combination of trading for individual sessions (e.g., CV seminar or how-to) in another core—when these had in fact been submitted through the online portal or otherwise devised beforehand—and peppering basic speakers into nonbasic sessions. This was accomplished with variable success depending on the core. With regard to participation in the CSSP meeting, the change that sent multiple members from BCVS this year was critical and should be reinstated in future years, as this is key to having “basic” voices heard throughout the Sessions program. With regard to all of us in the Council, submission of session ideas to all seven cores after this year’s November meeting is essential and those with creativity in the selection of topic and (type of) speaker will have greatest chance for success.

Thanks to Tom for this brilliant summary. We’ll see you in New Orleans. Keep those e-mails coming.

BCVS Council Awardees — AHA Scientific Sessions

The BCVS Council was pleased to announce the following finalists for our Young Investigator Awards at Scientific Sessions 2010 in November.

Katz Award Finalists
Competition was held Nov. 14.

Parth Patwari, Brigham and Women’s Hospital, Cambridge, Mass., The Alpha-Arrestin Arrdc3 Regulates Obesity in Mice and Humans
Farah Sheikh, UCSD, La Jolla, Calif., A Unique Synergistic Approach That Uncovers MLC2v Phosphorylation as an Early Marker for Heart Disease
Arjun Deb, University of North Carolina, Chapel Hill, Chapel Hill, N.C., Wnt1 Mediated Dynamic Injury Response Activates the Epicardium and is Critical for Mammalian Cardiac Repair

Marcus Award Finalists
Competition was held Nov. 15.

Kosaku Iwatsubo, UMDNJ-NJMS, Newark, N.J., Heart Failure Rescued by Pharmacological Inhibition of Type 5 Adenylyl Cyclase
Saumya Das, Beth Israel Deaconess Medical Center, Boston, Serum- and Glucocorticoid-Regulated Kinase 1 Contributes to Adverse Electrical Remodeling by Regulating Cardiac Na+ Channels

To learn more about these and other awards the BCVS Council offers, please visit my.americanheart.org/bcvscouncil and click on Awards.

Katz Young Investigator Award
Thomas Force, Fara Sheikh, Sarveet Singh, Arjun Deb, Parth Patwari, and Atsuhiko Naito

Marcus Young Investigator Award
Matthew Steinhauser, Reinier Boon, Jeffrey Robbins, Sami Noujaim, Saumya Das, and Kosaku Iwatsubo

Reinier A. Boon, Institute for Cardiovascular Regeneration, Frankfurt, Germany, Inhibition of the Age-Induced microRNA-34 Improves Recovery After AMI in Mice

Matthew L. Steinhauser, Brigham and Women’s Hospital, Cambridge, Mass., Cell Therapy Stimulates Endogenous Cardiomyocyte Progenitors
Basic Cardiovascular Sciences (continued)

Dr. Reinier Boon, Winner of the 2010 Marcus Award

Inhibition of the Age-Induced microRNA-34 Improves Recovery After AMI in Mice

Aging is the major risk factor for developing complications like acute myocardial infarction (AMI) and chronic heart failure. In recent years, microRNAs are emerging as important regulators of cardiovascular physiology. We analyzed the changes in expression of microRNAs in hearts of aged mice compared to young mice and found that the miR-34 family of miRNAs is highly induced by aging. We found that miR-34a induces apoptosis in cardiomyocytes in vitro and inhibition of miR-34a in vivo, using so-called antagonirs, reduced age-induced apoptosis in the heart. Furthermore, inhibition of miR-34a after AMI in mice, improved cardiac contractile recovery and reduced apoptosis in the peri-infarct area.

Mechanistically, we identified several novel additional potential targets of miR-34a, of which PNUTS is most strongly downregulated in aged hearts. PNUTS is known to be involved in apoptosis and to interact with the telomere regulator TRF2. We also found PNUTS to be induced in vivo in the heart after Ant-34a treatment. Furthermore, we show that miR-34a-mediated apoptosis in cultured rat cardiomyocytes can be rescued by lentiviral overexpression of PNUTS. Together, these results indicate that in vivo silencing of miR-34a reverses the adverse effects of aging on the heart and improves cardiac function after AMI. Therefore, inhibition of miR-34 using antagonirs could be a powerful strategy to improve recovery after an AMI in patients.

Submit your Science to Scientific Sessions
Abstract Submission: April 13–June 1 • scientificsessions.org
Accepted abstracts are published in Circulation, the #1 ranked journal in Cardiac & Cardiovascular Systems, with an Impact Factor of 14.816 (2009 ISI Journal Citation Reports®, Thomson Reuters, 2010).

Dr. Arjun Deb, Winner of the 2010 Katz Award

Wnt1-Mediated Dynamic Injury Response Activates the Epicardium and is Critical for Mammalian Cardiac Repair

The epicardium is activated following acute cardiac injury in zebrafish and plays an important role in heart regeneration but the role of the mammalian epicardium is unknown. The Wnt signaling system is important for cardiogenesis and regulates tissue repair and regeneration in several organ systems. We investigated the role of Wnts in cardiac repair and observed that a dynamic Wnt1/catenin injury response activates the epicardium and cardiac fibroblasts and is critical for cardiac homeostasis following acute ischemic injury. Wnt1 is initially expressed in the epicardium following acute ischemic cardiac injury and subsequently by cardiac fibroblasts in the infarct region. Using transgenic Wnt reporter mice, we observed that epicardial cells and fibroblasts are Wnt responsive as well. Utilizing fate mapping approaches, we demonstrated that epicardial cells activated by Wnt signaling undergo epithelial-mesenchymal-transition to become fibroblasts; Wnt1 also induces cardiac fibroblast proliferation and activation of a pro-fibrotic program. Interruption of Wnt/catenin signaling in epicardial cells and cardiac fibroblasts led to decreased epicardial EMT and collagen deposition, impaired cardiac repair and resulted in cardiac failure and death. These findings underscore the critical importance of a Wnt mediated injury response that activates the epicardium and cardiac fibroblasts to drive cardiac repair.

Dr. Michael Morissette Remembrance

Dr. Michael Morissette passed away Jan. 22, 2011 at age 38. He will be deeply missed by all who knew him for his humor, love and devotion.

A native of Rhode Island, Morissette graduated from the University of Rhode Island with a B.S. in pharmacy. He continued his education at the University of California, San Diego, where he received his PhD in biomedical sciences working in the lab of Dr. Joan Heller Brown. After receiving his PhD, Mike moved to Boston for post doctoral training with Dr. Anthony Rosenzweig at Massachusetts General Hospital and Harvard Medical School. Mike was initially appointed as a research fellow at Massachusetts General Hospital and Harvard Medical School and subsequently as an instructor in medicine at Harvard Medical School and Beth Israel Deaconess Medical Center. In 2008 he was recruited to the West Virginia University School of Medicine faculty as an assistant professor of exercise physiology in the Center for Cardiovascular and Respiratory Sciences.

For those wishing to express their sympathy, contributions can be sent to a memorial fund established to benefit Mike’s children (details below).

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