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Cardiovascular Working Group

John F. Keaney, Jr. M.D.

This month, Silvia Corvera, M.D., spoke about adiposity and metabolic dysfunction. She presented an interesting paradigm to explain why the pattern of fat deposition could be much more important than the actual amount of adipose tissue. In

particular, she pointed out that the threshold for obesity and diabetes in different parts of the world are quite distinct. In those populations that seem to be able to add adipose tissue in a variety of places, the BMI required for diabetes and metabolic dysfunction is very high. In contrast, populations that cannot add adipose tissue readily

develop diabetes at a much lower BMI. Thus, one must consider that diabetes and metabolic syndrome could actually represent a failure of fat deposition rather than simply the amount of fat deposition. This concept has wide-ranging implications for how we design new therapies for obesity and diabetes.



Faculty Spotlight

Dinesh Chandok, MD

Dr. Chandok is a graduate of Government Medical College, India. After receiving his medical degree, he immigrated to the United States to be close to his immediate family and pursue his career. He started his internship at Boston Medical Center and then subsequently moved to UMass for the rest of his training in medicine. He was asked to be a chief

resident of the Internal Medicine program at UMass. He thinks that was one of the best years of his life. It was an opportunity to grow and to learn and teach on a daily basis. After finishing his year as chief resident, he stayed on to complete his Cardiology and interventional Cardiology training at the University of Massachusetts Medical School. He was asked to be the Chief Cardiology fellow. During his training he was involved with multiple projects with Dr.

Aurigemma, Dr. Smith and Dr. Tighe. After finishing his training, he stayed on as Faculty. He enjoys being a clinical cardiologist, and stays involved with different research projects. He wants to focus his future projects on different modalities of cardiac and coronary imaging. He enjoys spending time teaching. His first year as faculty he received the *Best Teacher* award by the Department of Medicine. Dr Chandok's clinical interests are focused in interventional cardiology and cardiac imaging.

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Fellows' Corner



Heather Swales, MD

Dr. Swales will be collaborating with Drs. Thomas Wang and Susan Cheng from the Massachusetts General Hospital and Framingham Heart Study to investigate seasonal variation in cardiometabolic risk and its relation to vitamin D deficiency in the community. Prior studies have demonstrated seasonal variability with respect to the prevalence of metabolic syndrome as well as the

severity of associated cardiometabolic risk factors. The mechanisms underlying such observed seasonal variation of cardiometabolic risk remain unclear. In addition to changes in physical activity and diet, it is possible that such seasonal variation is at least partly related to vitamin D status. Recent studies have shown that vitamin D deficiency is related to a variety of cardiometabolic risk factors and metabolic syndrome as well as cardiovascular events. Since vitamin D status varies

with season, its impact on cardiometabolic risk may also be temporally dependent. Therefore, we propose to further investigate seasonal variation of metabolic risk in a large community-based cohort and, in turn, determine the degree to which this variation is related to vitamin D status as represented by circulating levels of 25-OH vitamin D.

Fellows' Corner



Kevin Floyd, MD

Cardiac Resynchronization therapy (CRT) is an established therapy for patients with heart failure and a wide QRS complex. Despite improving technology and knowledge regarding patient selection, responder rates are only about 70%. Certain factors

such as lead placement, myocardial scar, device programming and post-implant optimization have been shown to affect responder rates. As part of standard CRT, atrioventricular (AV) and interventricular (VV) optimization is performed using electrocardiographic and echocardiographic techniques. Despite the widespread use of

optimization techniques, there have been few studies performed to evaluate their clinical efficacy. Dr. Floyd will be working with Dr. Rashkin to determine the clinical benefit of echo guided VV optimization techniques.

Clinical News



Robert Phillips, MD

Dracup et al studied non-modifiable and modifiable factors associated with a CAD patient's knowledge about the condition. In the latter category, female sex, younger age, and higher education were associated with more knowledge about CAD. Even though men knew less about symptoms of an AMI, they were more confident that in an emergency they could diagnose a heart attack in themselves or someone else (a syndrome of overconfidence which is probably not modifiable). They also identified 2 modifiable factors associated with increased knowledge about CAD: participation in cardiac rehabilitation (CR) and receiving care by a cardiologist. This is important since post-MI cardiac rehabilitation is as effective in reducing mortality, than any surgery or medicine we can offer, and it also supports sub-specialty care of CAD patients.



Spotlight on Research

Acute Study of Clinical Effectiveness of Nesiritide in Decompensated Heart Failure

ABOUT THE STUDY

- Acute Decompensated Heart Failure study
- Randomized-double-blind
- Nesiritide vs. placebo along with standard care
- Infusion minimum of 24 hours and maximum 186 hours(7 days)

BASIC INCLUSION CRITERIA

- ≥ 18 years of age
- Hospitalized with acute decompensated heart failure or diagnosed with decompensated heart failure within 48 hours of being hospitalized for another reason.
- If on an IV vasoactive drug or inotrope, they must be on a stable dose for at least 3 hours.

MUST MEET THE FOLLOWING CRITERIA FOR DEFINITION OF ACUTE DECOMPENSATED HEART FAILURE

- Dyspnea at rest or with minimal activity
AND one of the following
- Tachypnea with RR >20 BPM
OR
- Pulmonary congestion, with rales at least 1/3 above bases
AND one of the following
- CXR with pulmonary congestion
OR
- PCWP >20 OR
- BNP ≥ 400 at presentation OR
- PCWP >20 OR
- EF $< 40\%$

Call the Cardiovascular Research Hot Line: 4-ENRL (4-3675) or 508-334-3675 or Cardio.Research@UmassMed.edu

Faculty Spotlight, continued from page 1

Dr Chandok's personal interests include soccer, golf and he enjoys traveling.

Pertinent publications and presentations:

1. Should a Thrombosed False Lumen Guide Management of Retrograde Type B Dissection? Aortic symposium 2008 Joseph M. Arcidi, MD Sheena Sharma, MD Gerard P. Aurigemma, MD Dinesh Chandok, MD Dmitri V. Guvakov, MD Shubjeet Kaur, MD Linda A. Pape, MD Divisions of Cardiac Surgery, Cardiovascular Medicine, and Cardiac Anesthesiology
2. Influence of Image Quality on the Accuracy of Real-time 3-dimensional Echocardiography to Measure Left Ventricular Volumes in Unselected Patients: A Comparison with Gated-SPECT Imaging. Tighe DA, Rosetti, M, Vinch CS, Chandok D, Muldoon D, Dahlberg ST, Aurigemma GP.
3. Displacement Imaging is superior to conventional M-mode to assess intraventricular dyssynchrony. J Am Coll Cardiol 2007;49:112A. Hill JC, Tighe DA, Hitron M, Normand JC, Chandok D, Rashkin J, Aurigemma GP.
4. Pericardiocentesis chapter in Irwin and Rippe, manual of intensive care medicine 2008. Chandok Dinesh, Tighe Dennis
5. Echocardiographic evaluation of The right ventricle, in Cardiac US Today. 2008, Flyod Kevin, Tighe Dennis, Chandok Dinesh
6. American heart association Clinical Consult Book, revised a chapter on Angiogenesis Jan 2006. Chandok
7. ECHO-2006-0072 -An Unusual Cause of Pulmonary Vein Stenosis Journal of Echocardiography. April 2006. Rosetti M, Tighe DA, Chandok D, Gammie JS, Griffith BP, Folland ED.
8. "Real World" 3D echocardiography: LV volume measurement by 3D echo compared to gated SPECT in unselected patient abstract Eur J Echocardiography 2005 Vinch C, Chandok D, Rosetti MT, Aurigemma GP, Tighe DA.
9. IMPELLA 2.5 SUPPORTED OFF PUMP CABG Stanley Tam, MD; Lynn Harrison, MD; Daniel Fisher, MD PhD; Dinesh Chandok, MD; Melinda Darrigo, RN UMass Memorial Health Care, Heart and Vascular Center of Excellence, Division of Cardiology and Cardiothoracic Surgery, Worcester, Massachusetts. Submitted for May 2009 AATS meeting.

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See us at:

www.umassmed.edu/cardio

New Employee



*Please welcome the following new employee to the
Division of Cardiovascular Medicine, Paula Hu, RN, MBA:*

We are pleased to announce that Paula Hu joined us on October 14th as the new Clinical Trials Nurse Manager.

Paula received a Bachelor of Medicine and a Master's of Science in Public Health from Shanghai Medical University and a Bachelor of Science in Nursing from The University of Alabama at Birmingham.

Paula comes to us with a broad breadth of experience as a research assistant, clinical nurse, and research study coordinator with hands-on management of a Cardiovascular Imaging Core Lab. She has also overseen all CV trials at her previous position at the University of Florida, Jacksonville.

Cardiovascular Medicine Clinical Research has a generic e-mail as Cardio.Research@Umassmed.edu or CardioResearch on the global address list from Outlook. The e-mail will forward to Paula Hu. If you have any clinical research related questions and do not know whom to contact, please send to this generic mailbox.

Cardiovascular Working Group Meeting Schedule

Tuesdays at 5:00 PM, Faculty Conference Room S1-342 University Campus

Date	Speaker	Topic
Nov. 18	Fumi Urano, MD, PhD	"Protein Homeostasis; the key to unlocking metabolic syndrome"
Dec. 16	Yukio Shimasaki, MD, PhD	"Role of mitochondrial uncoupling protein-2 in endothelial cells."

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