

Hypertension and the Cardiometabolic Syndrome
October 15, 2009

Target Audience:

Clinical cardiologists, endocrinologists and nephrologists, as well as the midwest life sciences and biomedical communities.

Conference Learning Objectives:

1. Discuss the latest in hypertension research as it relates to metabolic complications of cardiovascular disease.
2. Provide updates in management of hypertension as it relates to metabolic complications of cardiovascular disease.

Program:

7:00 – 8:00 **Registration, continental breakfast**

8:00 - 8:15 **Introduction, Welcome, Announcements**

Kevin C. Dellsperger, MD, PhD, Marie L. Vorbeck Chair, Professor and Chairman, Department of Internal Medicine, University of Missouri School of Medicine, Columbia, Missouri

8:15 – 8:45 Hypertension Awareness and Control in North America

Speaker: Warren Lockette, MD, Professor of Medicine, University of California San Diego, San Diego, California

Educational Objective:

8:45 – 9:15 **Hypertension as a CardioMetabolic Risk Factor**

Speaker: Douglas Vaughan, MD, Chair, Department of Medicine, Northwestern University, Professor, Division of Cardiology, The Feinberg School of Medicine, Chicago, Illinois

Educational Objective:

9:15 – 9:45 **How Recent Clinical Trials Will Affect Guidelines for Managing Hypertension**

Speaker: Michael Weber, MD, Professor of Medicine, Department of Cardiology, SUNY Downstate Medical Center, Brooklyn, New York

Educational Objective:

Review recent clinical outcomes trials in hypertension and define the new information that could guide future management of hypertension.

Consider important unanswered questions in hypertension, including diagnostic and therapeutic blood pressure cutpoints for hypertension, and discuss whether newly available data provides insights into these criteria.

Evaluate the comparative effects of different hypertension drugs and determine whether there are any hemodynamically independent differences among these agents.

9:45 – 10:00 **BREAK**

CONCURRENT SESSION I: Obesity Related Cardiovascular Disease

Moderator: Paul J. Fadel, PhD, Assistant Professor, Department of Medical Pharmacology and Physiology, University of Missouri School of Medicine, Columbia, Missouri

10:00 – 10:30 **Adipocytes, Vascular Remodeling and Hypertension**

Speaker: Rhian Touyz, MD, PhD, Canada Research Chair in Hypertension, University of Ottawa, Kidney Research Centre, Ottawa Health Research Institute, Ottawa, Ontario, Canada

Educational Objective:

Participants will be introduced to the concept that adipocytes are dynamic cells that produce vasoactive agents and inflammatory mediators important in cardio-metabolic syndrome and hypertension.

Participants will have an understanding of how adipose tissue influences vascular function and structure and how this impacts on hypertension.

Participants will learn how the rennin-angiotensin-aldosterone system influences adipose tissue and what the implications are in hypertension and metabolic syndrome.

10:30 – 11:00

The Role of RAS and Salt in Hypertension

Speaker: Ed Frohlich, MD, Vice President for Academic Affairs and Vice President for Education and Research, Ochsner Medical Center, New Orleans, Louisiana

Educational Objective:

Provide an historical background to the metabolic syndrome.

Provide some of the hemodynamic and pathophysiological concepts underlying obesity-related hypertensive disease.

Appreciate the active participation of salt in hypertensive disease and that it does not only raise arterial pressure.

11:00 – 11:30

Role of Aldosterone in Obesity Related CVD

Speaker: James Matthew Luther, MD, MSCI, Assistant Professor of Medicine and Pharmacology, Division of Clinical Pharmacology, Vanderbilt University, Nashville, Tennessee

Educational Objective:

Discuss the relationship between aldosterone and obesity.

Discuss the potential role of aldosterone on insulin secretion.

Discuss the importance of impaired insulin secretion in the progression of metabolic syndrome to type-II diabetes.

11:30 – 12:00

Uric Acid and Renal Disease

Speaker: Dalila B. Corry, MD, FAHA, Professor of Clinical Medicine, UCLA Olive View Medical Center, Sylmar, California

Educational Objective:

Review the urate transport in the kidney.

Discuss the relation of uric acid to hypertension.

Discuss the role of uric acid in kidney disease.

CONCURRENT SESSION II: Insulin Resistance in the Management of Hypertension

Moderator: Frank Booth, PhD, Professor, Departments of Biomedical Sciences, medical Pharmacology and Physiology and Nutrition and Exercise Physiology, University of Missouri School of Medicine, Columbia, Missouri

10:00 – 10:30

Intrarenal/Intratubular RAS in Hypertension and Diabetes

Speaker: L. Gabriel Navar, PhD, Chair, Department of Physiology and Director, Center of Biomedical Research, Tulane University Health Sciences Center, New Orleans, Louisiana

Educational Objective:

Describe the intrarenal distribution of angiotensin II, rennin, angiotensinogen and AT1 receptors in the kidney.

Describe the actions of angiotensin II on the renal microvasculature and tubular segments.

Describe the changes that occur in intrarenal angiotensinogen, angiotensin II and collecting duct renin during angiotensin dependent hypertension and diabetes.

Describe the effects of AT1 receptor blockade on tubular angiotensinogen, juxtaglomerular renin and collecting duct renin.

10:30 – 11:00

Endothelial Dysfunction in Insulin Resistance and Diabetes

Speaker: Ming-Hui Zou, MD, PhD, Director, Vascular Biology Program, Professor of Medicine, Cell Biology and Physiology, Travis Endowed Chair, Professor in Endocrinology, University of Oklahoma Health Science Center, Oklahoma City, Oklahoma

Educational Objective:

Introduce the concept of oxidative stress and how oxidative stress alters vascular functions and insulin signaling.

Recognize the contributions and clinical implications of oxidative protein modifications in the development of endothelial dysfunction and insulin resistance.

Introduce the pharmacologic strategies for reversing oxidative injury, endothelial dysfunction and insulin resistance in cardiovascular diseases.

- 11:00 – 11:30 **Vascular Implications for Cardiovascular Insulin Resistance**
Speaker: Ernesto Schiffrin, MD, PhD, FRSC, FRCPC, FACP, Physician in Chief, Sir Mortimer B Davis Jewish General Hospital; Canada Research Chair & Director, Hypertension and Vascular Research Unit, Lady Davis Institute; Professor and Vice Chair, Research, Department of Medicine, McGill University, Montreal, Quebec, Canada
- Educational Objective:
Understand the vascular changes associated with insulin resistance.
Learn the mechanisms that lead to vascular injury in the insulin resistant state.
- 11:30 – 12:00 **Uric Acid in Hypertension and the CardioMetabolic Syndrome**
Speaker: Michael L. Tuck, MD, Chief, Endocrinology and Metabolism, UCLA Olive View Medical Center, and Professor of Medicine, UCLA School of Medicine; VA Medical Center, Sepulveda, California
- Educational Objective:
- 12:00 – 12:10 **BREAK**
- 12:10 – 1:30 **Lunch and Keynote Speakers**
- 12:30 – 1:00 **Implications of Hypertension Management in the CardioMetabolic Syndrome**
Speaker: Carlos Ferrario, MD, FAHA, FASA, FACC, Professor, Wake Forest University School of Medicine, Winston Salem, North Carolina
- Educational Objective:
Identify the mechanisms that contribute to obesity-mediated hypertension.
Define the risks of poor blood pressure control in subjects with the cardiometabolic syndrome.
Demonstrate the value of blood pressure control in reducing cardiac and vascular complications due to the cardiometabolic syndrome.
- 1:00 – 1:30 **Emerging Therapies for Hypertension in the Metabolic Syndrome**
Speaker: Celso Gomez-Sanchez, MD, Staff Physician, GV Montgomery Veterans Administration Medical Center, Jackson, Mississippi
- Educational Objective:
- 1:30 – 2:30 **Abstract/Poster Presentations, Refreshments**
- Closing Session**
Moderator: David Gardner, MD, Associate Professor, Department of Internal Medicine, Division of Endocrinology, Diabetes and Metabolism, University of Missouri School of Medicine, Columbia, Missouri
- 2:30 – 3:00 **Obesity, Hypertension and the CardioMetabolic Syndrome in the Pediatric/Adolescent Population**
Speaker: Michael J. Gardner, MD, Assistant Professor of Clinical Medicine, Department of Internal Medicine, Division of Endocrinology, Diabetes and Metabolism, University of Missouri School of Medicine, Columbia, Missouri
- Educational Objective:
- 3:00 – 3:10 **Closing Remarks**
James R. Sowers, MD, ASCI, FAHA, FACP, Thomas W and Joan F Burns Missouri Chair in Diabetology, Professor, Departments of Internal Medicine and Medical Pharmacology and Physiology, Director, Division of Endocrinology, Diabetes and Metabolism, Director, Diabetes and Cardiovascular Center of Excellence, University of Missouri School of Medicine, Columbia, Missouri