Introduction to the Second Annual Rostand Vitamin D Symposium

David G. Warnock and Stephen G. Rostand

Division of Nephrology, Department of Medicine, University of Alabama at Birmingham, Birmingham, Alabama

The role of vitamin D in multiple organ systems is coming into sharp focus with recent advances in the understanding of its mechanisms of actions and interplay with multiple organ systems. Important distinctions between the role of 25-hydroxy metabolites that serve as substrates for subsequent hydroxylase reactions and the class of vitamin D receptor stimulating agents are important in understanding the clinical use of vitamin D in various clinical conditions.


The interest is burgeoning in the role vitamin D in human health, particularly with respect to its traditional effects on the physiology of bone, bone health and disease, and the parathyroid gland. In parallel, numerous reports indicate that vitamin D also affects nonosseous organ systems and other physiologic and molecular processes. We now know that the vitamin D receptor, through which active vitamin D analogues exert their effects, may be found ubiquitously and regulates a series of events that can affect cellular proliferation and differentiation, inflammation, the immune system, and the endocrine system, including the renin-angiotensin system, insulin resistance, and lipid metabolism. Vitamin D deficiency is associated with the development of increased left ventricular mass index, cardiac fibrosis, coronary calcification, and decreased inotropy. Such studies also reveal increased renin-angiotensin activity, vascular endothelial dysfunction, vascular smooth muscle cell hypertrophy, and the development of hypertension, insulin resistance, interstitial renal fibrosis, podocyte damage, and glomerulosclerosis. Thus vitamin D may be involved in major health hazards, including coronary heart disease, heart failure, hypertension, chronic kidney disease, diabetes mellitus, and cancer.

The Second Annual Symposium on Vitamin D presented the current state of the art with regard to the role of vitamin D in cardiovascular and kidney diseases. The presentations included:

- Dr. Adeera Levin, Professor of Medicine at the University of British Columbia and Staff Nephrologist at St. Paul’s Hospital/Providence Health Care in Vancouver, Canada, “Vitamin D and PTH in the General Internal Medicine Clinic Population.”
- Keith C. Norris, MD, Professor of Medicine and Executive Vice President for Research and Health Affairs at Charles Drew University of Medicine and Science in Los Angeles, Assistant Dean for Translational Science at the Geffen School of Medicine at the University of California–Los Angeles (UCLA), “Cardiovascular System and Vitamin D.”
- Rajiv Agarwal, MD, Professor of Medicine, Indiana University School of Medicine at Indianapolis, “Vitamin D, Diabetic Nephropathy, and Progression.”
- Kamyar Kalantar-Zadeh, MD, PhD, MPH, FAAP, Associate Professor of Medicine, Pediatrics, and Epidemiology, David Geffen UCLA School of Medicine and Director of the Dialysis Expansion Program, Harbor-UCLA Medical Center in Torrance, California, “Current Treatment Options and Approaches with Vitamin D Preparation.”

Acknowledgments

This symposium was held on March 20, 2009 at the University of Alabama at Birmingham. This symposium was supported by an unrestricted educational grant from Abbott Pharmaceutical Company, which played no role in the selection of the speakers or preparation of the manuscripts for this symposium report.