



Tulane Hypertension and Renal Center of Excellence

Summer 2006

Volume 5, Issue 1



Hypertension and Renal Center Recovers from Katrina

As pointed out in the last newsletter, Katrina and the post-Katrina flooding dealt Tulane and our Hypertension and Renal Center a devastating blow. Many things have been permanently changed and members of the Hypertension and Renal Center have had serious disruptions of their research programs. The faculty of the Medical School was substantially downsized and the Hypertension Center lost faculty, fellows, and staff. Nevertheless, we are pleased to report that our facilities slowly became available starting in early January. Importantly, the research programs have been resumed and the Molecular and Analytical CORE facilities are now fully operational. However, investigators using specially bred, transgenic animals are still in the process of restoring their colonies. Cell cultures and unique investigator derived products were also lost and are being rederived or procured from other sources. The Hypertension Center Seminar program is restarting this Summer and we will begin having visiting seminar speakers this Fall.

The COBRE grant from NCRR will be entering its fifth year of activity and for year 5 we will have added several new junior faculty investigators to replace individuals who have graduated from the program or who are no long on the faculty. The new junior faculty investigators and their projects are:

- ◇ Kristi Reynolds, PhD, MPH, Department of Epidemiology, "Effects of soybean protein on adipocytokines, systemic inflammation, and endothelial dysfunction"
- ◇ Keith Jackson, PhD, Department of Physiology, "Heme oxygenase in angiotensin II"

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Dr. L. Gabriel Navar presented with Distinguished Mentor Award from the American Physiological Society

Dr. L. Gabriel Navar received the 2006 Bodil Schmidt-Nielsen Distinguished Mentor and Scientist award from the American Physiological Society, Women in Physiology Committee on April 3 during the Experimental Biology meeting in San Francisco. The Bodil Schmidt-Nielsen Award is named after the first woman President of the American Physiological Society and honors a member who is judged to have made outstanding contributions to physiological research and to have demonstrated a dedication and commitment to excellence in training of young physiologists. We extend our congratulations to Dr. Navar.



Dr. Navar receives award from Dr. Douglas C. Eaton, APA President

Katrina Recovery continued

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hypertension”

- ◇ Katie Hering-Smith, PhD, Departments of Physiology and Medicine, “Citrate transport in the proximal tubule”
- ◇ Jing Chen, MD, MSc, Department of Medicine and Epidemiology, “Endothelial dysfunction, adipocytokines, inflammation and chronic kidney disease”

We look forward to following their success and continued growth. Overall, we are very optimistic that the research programs in the Hypertension and Renal Center will return to full strength and continue to grow to a new level of activity. We greatly appreciate the support of our many friends at Tulane, in New Orleans, and throughout the country.

Recent Publications

Chen J, He J, Wildman RP, Reynolds K, Streiffer RH, Whelton PK. A randomized controlled trial of dietary fiber intake on serum lipids. *Eur J Clin Nutr* 60:62-68, 2006.

DeSalvo K, Bloser N, Reynolds K, He J, Muntner P. Mortality prediction with a single general self-rated health question. A meta-analysis. *J Gen Internal Med* 21(3):267-75, 2006.

Fan H, Stefkova J, and El-Dahr SS. Susceptibility to Metanephric Apoptosis in Bradykinin B2 Receptor Null Mice via the p53-Bax Pathway. *Am J Physiol Renal Physiol* 290: F873-F879, 2006.

Feng MG and Navar LG. Nitric oxide synthase inhibition activates L- and T-type Ca²⁺ channels in afferent and efferent arterioles. *Am J Physiol Renal Physiol* 290: F873-F879, 2006.

Gonzalez-Villalobos R, Klassen RB, Allen PL, Johanson K, Baker C, Kobori H, Navar LG, Hammond TG. Megalin binds and internalizes angiotensin-(1-7). *Am J Physiol Renal Physiol*. 290(5):F1270-F1275, 2006.

Gu D, He J, Wu X, Reynolds K, Huang G, Chen J, Duan X, Chen CS, Whelton PK. Body weight and mortality among men and women in China. *JAMA* 295:776-783, 2006.

Hamm, LL. Renal Regulation of Hydrogen Ion Balance. In *Acid-Base Disorders and Their Treatment*, edited by F. John Gennari, H. J. Androgeue, John H. Galla, and N. E. Madias. Taylor and Francis, Boca Raton, 2005.

Johanson K, PL Allen, RA Gonzalez-Villalobos, CB Baker, R D’Elia and TG Hammond. Gene expression and survival changes in *Saccharomyces cerevisiae* during suspension culture. *Biotechnol Bioeng*. 93: 1050-9, 2006.

Johnson FK, Johnson RA, Durante W, Jackson KE, Stevenson BK, Peyton KJ. Metabolic syndrome increases endogenous carbon monoxide production to promote hypertension and endothelial dysfunction. *Am J Physiol Regul Integr Comp Physiol* 290: R601-R608, 2006.

Kobori H, Ozawa Y, Suzuki Y, Prieto-Carrasquero MC, Nishiyama A, Shoji T, Cohen EP, Navar LG. Young scholars award lecture: Intratubular angiotensinogen in hypertension and kidney diseases. *Am J Hypertens*. 19:541-550, 2006.

Recent Publications

Publications

Kopkan L, Castillo A, Navar LG, Majid DS. Enhanced superoxide generation modulates renal function in ANG II-induced hypertensive rats. *Am J Physiol Renal Physiol* 290: F80-F86, 2006.

Kumar P, Arise KK, Pandey KN. Transcriptional regulation of guanylyl cyclase/natriuretic peptide receptor-A gene. *Peptide* 27: 1762-9, 2006.

Li XC, Carretero OA, Navar LG and Zhuo JL. AT1 Receptor-Mediated Accumulation of Extracellular Angiotensin II in Proximal Tubule Cells: Role of Cytoskeleton Microtubules and Tyrosine Phosphatases. *Am J Physiol Renal Physiol*: (Epub ahead of print).

Muntner P, DeSalvo KB, Wildman RP, Raggi P, He J, Whelton PK. Trends in prevalence, awareness, treatment and control of cardiovascular disease risk factors among patients with a history of myocardial infarction and stroke. *American Journal of Epidemiology* 163: 913-920, 2006.

Nakhoul NL, Schmidt E, Abdulnour-Nakhoul SM, Hamm LL. Electrogenic ammonium transport by renal Rhbg. *Transfus Clin Biol*. 13(1-2):147-53, 2006.

Navar LG, Prieto-Carrasquero MC, Kobori H. Chapter 1: Molecular aspects of the renal renin-angiotensin system. In: DiPette D, Schiffrin E, Sowers J, Re R, ed. *Molecular mechanisms in hypertension*. 1st ed. Oxfordshire, UK: Taylor & Francis Medical. Pp 3-14, 2006.

Navar LG, Prieto-Carrasquero MC, Kobori H. Chapter 170: Renal renin-angiotensin system. In: Kastin AJ, ed. *Handbook of biologically active peptides*. 1st ed. Burlington, MA: Elsevier. Pp 1253-1259, 2006.

Nishiyama A, Jackson KE, Majid DS, Rahman M and Navar LG. Renal interstitial fluid ATP responses to arterial pressure and tubuloglomerular feedback activation during calcium channel blockade. *Am J Physiol Heart Circ Physiol* 290: H772-H777, 2006.

Opay AL, Mouton CR, Mullins JJ, and Mitchell KD. Cyclooxygenase-2 inhibition normalizes arterial blood pressure in Cyp1a1-Ren2 transgenic rats with inducible Ang II-dependent malignant hypertension. *Articles in Press. Am J Physiol Renal Physiol*. (April 18, 2006). doi: 10.1152/ajprenal.00032.2006

Prieto-Carrasquero MC and Navar LG. Role of intrarenal renin-angiotensin system in hypertension. In: Role of the intrarenal renin-angiotensin system in hypertension. In: Nephrology, Hypertension, Dialysis, Transplantation, edited by Andreoli TE, Ritz E and Rosivall L. Budapest, Nagyvarad: Hungarian Kidney Foundation, 2006, p. 199-220.

Shen B and El-Dahr SS. Cross-talk of the renin-angiotensin and kallikrein-kinin systems. *Biol Chem* 387: 145-150, 2006.

Yosypiv IV, Schroeder M, El-Dahr SS. AT1R-EGFR crosstalk regulates ureteric bud branching morphogenesis. *J of the American Society of Nephrology* 17: 1005-1014, 2006.

Tulane Investigators Participate in International, National, and Regional Meetings

American Physiological Society/Experimental Biology 2006 meeting, San Francisco, CA, April 1-5, 2006

Arise KK and Pandey KN. Protein kinase C mediates the angiotensin II-dependent transcriptional repression and expression of natriuretic peptide receptor-A gene.

Durante W, Johnson FK, Johnson RA, Liu X-M, Ensenat D, Peyton KJ. Hyperglycemia stimulates vascular arginase activity.

Durante W, Johnson FK, Johnson RA, Peyton KJ. Metabolic syndrome promotes endothelial dysfunction and hypertension via the induction of arginase.

Gonzalez-Villalobos RA, Allen PL, Johanson K, Baker CB, Guevorkian K, Valles JM, Hammond TG. Diamagnetic levitation changes growth and gene expression of *Saccharomyces cerevisiae*.

Hartfield JN, Haque M, Majid DSA, Francis J. Angiotensin II induced increase in eNos is mediated through TNF- α .

Johnson FK, Jackson KE, Lin CS, Peyton KJ, Durante W, Johnson RA. PPAR agonist protects from salt-mediated increase in endogenous carbon monoxide production and blood pressure in Dahl salt-sensitive rats.

Johnson RA, Jackson KE, Peyton KJ, Durante W, Johnson FK. High-salt diet increases endogenous carbon monoxide production to promote hypertension in Dahl salt-sensitive rats.

Majid DSA, Scales J, Kopkan L, Jackson KE, Castillo A. Superoxide activity does not play a role in the mediation of pressure in natriuresis.

Oliver III R, Ecelbarger C, Hering-Smith K, Welbourne T. Rosiglitazone induces renal cellular acidosis.

Prieto-Carrasquero MC, Evans-Vallas M, Ortiz R, Kobori H, Pagan J, Seth D, Navar LG. Effects of aldosterone receptor blockade on collecting duct renin in normotensive and hypertensive rats.

46th Annual Conference on Cardiovascular Disease, Epidemiology, and Prevention of the American Heart Association, Phoenix, AZ, March 2006

He J, Gu D, Reynolds K, Chen J, Wu X, Duan X, Chen CS, Whelton PK. Overweight and risk of stroke in China: a prospective study of 169,871 men and women.

Invited Speakers:

Hamm, L Lee, M.D. "Acid-Base defense mechanism and failure" Maine Medical Center, May 17

Hamm, L Lee, M.D. "Acid-Base defense mechanism and failure" University of Pittsburgh, March 7

Presentations continued

Hamm, L Lee, M.D. "Relationship of Chronic Kidney Disease and Cardiovascular Disease" Vanderbilt University, June 1

K. Mitchell, Ph.D, University of Nebraska School of Medicine, "Physiology & Pathophysiology of the Kidney", January 20, and "Genetic Clamping of Renin Gene Expression Induces Hypertension of Graded Severity in Cyp1a1-Ren2 Transgenic Rats" January 20

L. Gabriel Navar, Ph.D, ASH Winter Conference, Coconut Grove, FL, "Basic Science Department Concerns" January 13

L. Gabriel Navar, Ph.D, Baylor Medical School, Houston, "Intrarenal Renin-Angiotensin system in hypertension" February 22

L. Gabriel Navar, Ph.D, University of Southern California, Los Angeles, CA, "Regulating intrarenal and intratubular Ang II renin and angiotensinogen in hypertensive states" March 30

L. Gabriel Navar, Ph.D, Experimental Biology meeting, San Francisco, CA, "Being a successful mentor" April 3

L. Gabriel Navar, Ph.D, New York Medical Center, New York, NY, "The tubular RAS in hypertension" April 24; "Role of ATP in regulation of the renal microcirculation" April 25

L. Gabriel Navar, Ph.D, Medical College of Georgia, Augusta, GA, "The tubular RAS in hypertension" May 11

L. Gabriel Navar, Ph.D, APS meeting on Explorations in Biomedicine—Undergraduate Physiology Exploration Retreat, Denver, CO, "High blood pressure, cardiovascular health, and kidney function" June 10

Seminar series reinstated

Due to the Hurricane, we have had an extended interruption of the Hypertension and Renal Center seminar series. We are now excited to announce the reinstatement of the seminar series this summer. Beginning with the new COBRE junior faculty investigators, we will present lectures every other Thursday, at 4:00 pm, in Room 4700, the Pharmacology Library.

Current Schedule

June 29, 2006	Jing Chen, MD, MSc
July 13, 2006	Minolfa Prieto-Carrasquero, PhD
July 27, 2006	Zubaida Saifudeen, PhD
August 10, 2006	Kristi Reynolds, PhD, MPH
August 24, 2006	Katie Hering-Smith, PhD
September 7, 2006	Keith Jackson, PhD
September 21, 2006	Ihor Yosypiv, MD

Recent awards and other happenings

Drs. L. Lee Hamm and Patrick Delafontaine were elected to the Association of American Physicians. The Association is a nonprofit, professional organization founded in 1885 by seven physicians, including Dr. William Osler, for "the advancement of scientific and practical medicine." Now the Association is composed of about 1000 active members and approximately 550 emeritus and honorary members from the United States, Canada and other countries.

Dr. Hiroyuki Kobori received an R01 NIH grant effective March 1 title, "Intrarenal augmentation of angiotensinogen by ANG II"

Dr. Kailash Pandey received a grant from the Tulane Cancer Center to support Dr. Perna Kumar and also received a \$25,000 grant from the Louisiana Center Research Consortium.

Dr. L. Gabriel Navar was presented with an award from the Tulane University Health

Sciences Center and Board of Governors for outstanding achievement and commitment to excellence in total competitive research funding for the year 2004-2005. This is the third time that the Center has been recognized for success in receiving competitive funding.

Bing Shen received a predoctoral fellowship from the American Heart Association Southeast Affiliate for her project titled, "Role of Ang II in p53 activation during nephrogenesis." The award begins July 1, 2006.

Allison L. Opay (T-4) (Mentor: Dr. K.D. Mitchell) received the Nicholas DiLuzio Award for Excellence in Research, which is awarded by the Department of Physiology to graduating medical students, May 2006

Federico Jose Teran (T-4) (Mentor: Dr. R. Johnson) received the Hymen S. Mayerson, M.D. Award, which is awarded by the Department of Physiology to graduating medical students, May 2006

Hypertension and Renal Center welcomes 2006 Summer Students

The Tulane Hypertension and Renal Center of Excellence is pleased to host our Summer Student Program again. For 8-12 weeks, students work with the Center's researchers and clinicians. Summer students are exposed to the nature of a career path in research and have the opportunity to attend the Hypertension and Renal Center conferences. While the majority of our summer students are Tulane medical students, we also have students representing Tulane's uptown campus, Louisiana State University and University of Puerto Rico, Mayaguez Campus.

Tulane Hypertension and Renal Center of Excellence 2006 Summer Students

- ◇ Arthur Hess, Dr. Majid, mentor
- ◇ Lauren Eckert, Dr. Mitchell, mentor
- ◇ Clayton Eiswirth, Dr. Mitchell, mentor
- ◇ Camille Linick, Dr. Navar, mentor
- ◇ Javier Pagan, Dr. Navar, mentor
- ◇ Megan Rosman, Dr. Navar, mentor
- ◇ Brian Haigh, Dr. Hammond, mentor

The directors invite faculty members interested in participating in the activities of the T.H.R.C.E. to submit your name, phone number, fax number, and e-mail address to the Program Coordinator by e-mail at htnctr@tulane.edu or regular mail to the address provided. Also, please forward all information (awards, publications, presentations and other news items) to this email address for inclusion in the next newsletter.