CJASN

Clinical Journal of the American Society of Nephrology

April 2016 • Volume 11, No. 4 • www.cjasn.org







April 2016 • Vol. 11 • No. 4

Editorials

Lupus Podocytopathy: A Distinct Entity

Andrew S. Bomback and Glen S. Markowitz See related article on page 585.

549 Dying to Feel Better: The Central Role of Dialysis-Induced Tissue Hypoxia

Christopher McIntyre and Lisa Crowley See related article on page 616.

Does the Evidence Support Conservative Management as an Alternative to Dialysis for Older Patients with Advanced Kidney Disease?

Helen Tam-Tham and Chandra M. Thomas See related article on page 633.

Emergency Department Visits after Kidney Transplantation

Lorien S. Dalrymple and Patrick S. Romano See related article on page 674.

Original Articles

Chronic Kidney Disease

A Randomized, Controlled Trial of Oral Intestinal Sorbent AST-120 on Renal Function Deterioration in Patients with Advanced Renal Dysfunction

Ran-hui Cha, Shin Wook Kang, Cheol Whee Park, Dae Ryong Cha, Ki Young Na, Sung Gyun Kim, Sun Ae Yoon, Sang Youb Han, Jae Hyun Chang, Sue K. Park, Chun Soo Lim, and Yon Su Kim

Clinical Immunology and Pathology

Autoantibodies against Linear Epitopes of Myeloperoxidase in Anti-Glomerular Basement Membrane Disease
Jian-nan Li, Zhao Cui, Jia Wang, Shui-yi Hu, Xiao-yu Jia, Zhe Guan, Min Chen, Can Xie, and Ming-hui Zhao

Clinical Nephrology

576 Automated Segmentation of Kidneys from MR Images in Patients with Autosomal Dominant Polycystic Kidney Disease

Youngwoo Kim, Yinghui Ge, Cheng Tao, Jianbing Zhu, Arlene B. Chapman, Vicente E. Torres, Alan S.L. Yu, Michal Mrug, William M. Bennett, Michael F. Flessner, Doug P. Landsittel, and Kyongtae T. Bae for the Consortium for Radiologic Imaging Studies of Polycystic Kidney Disease (CRISP)

Clinical–Morphological Features and Outcomes of Lupus Podocytopathy

Weixin Hu, Yinghua Chen, Shaofan Wang, Hao Chen, Zhengzhao Liu, Caihong Zeng, Haitao Zhang, and Zhihong Liu See related editorial on page 547.

Diabetes and the Kidney

Prognostic Value of Tubulointerstitial Lesions, Urinary N-Acetyl- β -D-Glucosaminidase, and Urinary β 2-Microglobulin in Patients with Type 2 Diabetes and Biopsy-Proven Diabetic Nephropathy

Koki Mise, Junichi Hoshino, Toshiharu Ueno, Ryo Hazue, Jumpei Hasegawa, Akinari Sekine, Keiichi Sumida, Rikako Hiramatsu, Eiko Hasegawa, Masayuki Yamanouchi, Noriko Hayami, Tatsuya Suwabe, Naoki Sawa, Takeshi Fujii, Shigeko Hara, Kenichi Ohashi, Kenmei Takaichi, and Yoshifumi Ubara

Epidemiology and Outcomes

602 Peripheral Edema, Central Venous Pressure, and Risk of AKI in Critical Illness

Kenneth P. Chen, Susan Cavender, Joon Lee, Mengling Feng, Roger G. Mark, Leo Anthony Celi, Kenneth J. Mukamal, and John Danziger

609 External Validation of the Kidney Failure Risk Equation and Re-Calibration with Addition of Ultrasound Parameters

Claudia S. Lennartz, John William Pickering, Sarah Seiler-Mußler, Lucie Bauer, Kathrin Untersteller, Insa E Emrich, Adam M. Zawada, Jörg Radermacher, Navdeep Tangri, Danilo Fliser, and Gunnar H. Heine

616 Intradialytic Hypoxemia and Clinical Outcomes in Patients on Hemodialysis

Anna Meyring-Wösten, Hanjie Zhang, Xiaoling Ye, Doris H. Fuertinger, Lili Chan, Franz Kappel, Mikhail Artemyev, Nancy Ginsberg, Yuedong Wang, Stephan Thijssen, and Peter Kotanko See related editorial on page 549.

Association of Performance-Based and Self-Reported Function-Based Definitions of Frailty with Mortality among Patients Receiving Hemodialysis

Kirsten L. Johansen, Lorien S. Dalrymple, David Glidden, Cynthia Delgado, George A. Kaysen, Barbara Grimes, and Glenn M. Chertow

ESRD and Chronic Dialysis

633 Comparative Survival among Older Adults with Advanced Kidney Disease Managed Conservatively Versus with Dialysis

Wouter R. Verberne, A.B.M. Tom Geers, Wilbert T. Jellema, Hieronymus H. Vincent, Johannes J.M. van Delden, and Willem Jan W. Bos See related editorial on page 552.

Hypertension

642 Masked Hypertension and Elevated Nighttime Blood Pressure in CKD: Prevalence and Association with Target Organ Damage

Paul E. Drawz, Arnold B. Alper, Amanda H. Anderson, Carolyn S. Brecklin, Jeanne Charleston, Jing Chen, Rajat Deo, Michael J. Fischer, Jiang He, Chi-yuan Hsu, Yonghong Huan, Martin G. Keane, John W. Kusek, Gail K. Makos, Edgar R. Miller III, Elsayed Z. Soliman, Susan P. Steigerwalt, Jonathan J. Taliercio, Raymond R. Townsend, Matthew R. Weir, Jackson T. Wright Jr., Dawei Xie, Mahboob Rahman and the Chronic Renal Insufficiency Cohort Study Investigators

Mineral Metabolism/Bone Disease

653 Genetic African Ancestry and Markers of Mineral Metabolism in CKD

Orlando M. Gutiérrez, Afshin Parsa, Tamara Isakova, Julia J. Scialla, Jing Chen, John M. Flack, Lisa C. Nessel, Jayanta Gupta, Keith A. Bellovich, Susan Steigerwalt, James H. Sondheimer, Jackson T. Wright Jr, Harold I. Feldman, John W. Kusek, James P. Lash, and Myles Wolf

Nephrolithiasis

664 Prevalence of Monogenic Causes in Pediatric Patients with Nephrolithiasis or Nephrocalcinosis

Daniela Anne Braun, Jennifer Ashley Lawson, Heon Yung Gee, Jan Halbritter, Shirlee Shril, Weizhen Tan, Deborah Stein, Ari J. Wassner, Michael A. Ferguson, Zoran Gucev, Brittany Fisher, Leslie Spaneas, Jennifer Varner, John A. Sayer, Danko Milosevic, Michelle Baum, Velibor Tasic, and Friedhelm Hildebrandt

Renal Transplantation

674 Emergency Department Visits after Kidney Transplantation

Jesse D. Schold, Nissreen Elfadawy, Laura D. Buccini, David A. Goldfarb, Stuart M. Flechner, Michael P. Phelan, and Emilio D. Poggio See related editorial on page 555.

Attending Rounds

684 Approach to the Highly Sensitized Kidney Transplant Candidate

Education Series

Educating Patients about CKD: The Path to Self-Management and Patient-Centered Care *Andrew S. Narva, Jenna M. Norton, and L. Ebony Boulware*

Ethics Series

The Evolving Ethics of Dialysis in the United States: A Principlist Bioethics Approach *Catherine R. Butler, Rajnish Mehrotra, Mark R. Tonelli, and Daniel Y. Lam*

Mini-Review

710 Anti-CD20 Antibodies for Idiopathic Nephrotic Syndrome in Children
Pietro Ravani, Alice Bonanni, Roberta Rossi, Gianluca Caridi, and Gian Marco Ghiggeri

Special Feature

721 Arrhythmia and Sudden Death in Hemodialysis Patients: Protocol and Baseline Characteristics of the Monitoring in Dialysis Study

David M. Charytan, Robert Foley, Peter A. McCullough, John D. Rogers, Peter Zimetbaum, Charles A. Herzog, and James A. Tumlin on behalf of the MiD Investigators and Committees

735 American Society of Nephrology Quiz and Questionnaire 2015: Electrolytes and Acid–Base Disorders Mitchell H. Rosner, Mark A. Perazella, and Michael J. Choi

On the Cover

What's the diagnosis? Nomal and horseshoe kidney, Anatomic Cabinet of Palazzo Poggi Museum, University of Bologna, 1742. Horseshoe kidney is a congenital nephrological disorder and the most common type of renal fusion, affecting 1/400-500 people, mainly male adults (M:F 2:1). This anatomical malformation is chiefly asymptomatic, although it is subject to a whole spectrum of clinical complications, namely hydronephrosis, infection, cancer (e.g. Wilms tumour) and renal calculi. People with this anatomical trait often conduct perfectly normal lives yet recognition of this anomaly via imaging is very important in terms of potential future renal or abdominal surgery. This historic model showing two kidneys connected at their lower poles was the first anatomic wax model by renowned artist Ercole Lelli (1702-1766), and closely followed the discovery of this pathological fusion by prosector Lorenzo Bonazzoli during a public dissection. The art and science of modeling human organs from wax was founded at the University of Bologna as the supply of human cadavers for medical education was limited, and the preservation of human specimens was problematic. A pioneer in anatomical wax modeling, Lelli produced the core of the world's first and greatest collection of anatomical waxes for medical education. Such ceroplastic models provided a valuable three-dimensional alternative to human dissection, and are an important element in the history of anatomy education. Works by Lelli and other renowned anatomic artists are on display at the University of Bologna where their artistic beauty and scientific importance can be appreciated. (Images and text provided by Dr. Francesco M. Galassi and Emeritus Prof. Alessandro Ruggeri, University of Bologna, and Prof. Kevin Petti, San Diego Miramar College. Special thanks go to Mr. Fulvio Simoni, the Palazzo Poggi Museum and the SMA - Sistema Museale d'Ateneo of the University of Bologna.)