Editorials

711 Understanding Histolopathologic Characteristics to Predict Renal Outcomes in Lupus Nephritis
Vladimir Tesar and Zdenka Hruskova
See related article on page 734.

713 Avoiding Preventable Complications in Hospitalized Patients with CKD
Eric W. Young
See related article on page 799.

715 Can Preservation Fluid Biomarkers Predict Delayed Graft Function in Transplanted Kidneys?
Isaac E. Hall
See related article on page 817.

Original Articles

Chronic Kidney Disease

718 Association of CKD with Outcomes Among Patients Undergoing Transcatheter Aortic Valve Implantation
Florian Lüders, Klaus Kaier, Gerrit Kaleschke, Katrin Gebauer, Matthias Meyborg, Nasser M. Malyar, Eva Freisinger, Helmut Baumgartner, Holger Reinecke, and Jochen Reinöhl

Clinical Immunology and Pathology

734 Clinical and Histopathologic Characteristics Associated with Renal Outcomes in Lupus Nephritis
Emilie C. Rijnink, Y.K. Onno Teng, Suzanne Wilhelmus, Mathilde Almekinders, Ron Wolterbeek, Karlien Cransberg, Jan A. Bruijn, and Ingeborg M. Bajema
See related editorial on page 711.

Clinical Nephrology

744 Risk of Febuxostat-Associated Myopathy in Patients with CKD
Chung-te Liu, Chun-You Chen, Chien-Yi Hsu, Po-Hsun Huang, Feng-Yen Lin, Jaw-Wen Chen, and Shing-Jong Lin

Diabetes and the Kidney

751 Differential Effects of Dapagliflozin on Cardiovascular Risk Factors at Varying Degrees of Renal Function
Sergei Petrykiv, C. David Sjöström, Peter J. Greasley, John Xu, Frederik Persson, and Hiddo J.L. Heerspink
Epidemiology and Outcomes

761 Urine Kidney Injury Biomarkers and Risks of Cardiovascular Disease Events and All-Cause Death: The CRIC Study
Meyeon Park, Chi-yuan Hsu, Alan S. Go, Harold I. Feldman, Dawei Xie, Xiaoming Zhang, Theodore Mifflin, Sushrut S. Waikar, Venkata S. Sabbisetti, Joseph V. Bonventre, Josef Coresh, Robert G. Nelson, Paul L. Kimmel, John W. Kusek, Mahboob Rahman, Jeffrey R. Schelling, Ramachandran S. Vasan, and Kathleen D. Liu, on behalf of the Chronic Renal Insufficiency Cohort (CRIC) Study Investigators and the CKD Biomarkers Consortium

ESRD and Chronic Dialysis

772 Immunogenicity of Augmented Compared With Standard Dose Hepatitis B Vaccine in Pediatric Patients on Dialysis: a Midwest Pediatric Nephrology Consortium Study
Jason M. Misurac, Rene G. VanDeVoorde, Mahmoud Kallash, Franca M. Iorember, Kera E. Luckritz, Michelle N. Rheault, Jennifer G. Jetton, Martin A. Turman, Gaurav Kapur, Katherine E. Twombley, Shireen Hashmat, Donald J. Weaver, Jeffrey D. Leiser, and Corina Nailescu

779 Changes in the Profile of Endovascular Procedures Performed in Freestanding Dialysis Access Centers over 15 Years
Gerald A. Beathard, Aris Urbanes, and Terry Litchfield

Geriatric and Palliative Nephrology

788 Qualitative Interviews Exploring Palliative Care Perspectives of Latinos on Dialysis
Lilia Cervantes, Jacqueline Jones, Stuart Linas, and Stacy Fischer

Health Services Research

799 Adverse Outcomes Associated with Preventable Complications in Hospitalized Patients with CKD
Babak Bohlouli, Terri Jurgens Jackson, Marcello Tonelli, Brenda Hemmelgarn, and Scott Klarenbach
See related editorial on page 713.

Hypertension

807 Effect of Uric Acid Lowering on Renin-Angiotensin-System Activation and Ambulatory BP: A Randomized Controlled Trial
Ciaran J. McMullan, Lea Borgi, Naomi Fisher, Gary Curhan, and John Forman

Renal Transplantation

817 Proteins in Preservation Fluid as Predictors of Delayed Graft Function in Kidneys from Donors after Circulatory Death
Bas W.M. van Balkom, Hendrik Gremmels, Liselotte S.S. Ooms, Raechel J. Toorop, Frank J.M.F. Dor, Olivier G. de Jong, Laura A. Michielsen, Gert J. de Borst, Wilco de Jager, Alieszio C. Abrahams, Arjan D. van Zuilen, and Marianne C. Verhaar
See related editorial on page 715.

Glomerular Diseases: Update for the Clinician

825 Update on Lupus Nephritis
Salem Almaani, Alexa Meara, and Brad H. Rovin

Kidney Case Conference: Nephrology Quiz and Questionnaire

836 An Elderly Man with Fatigue, Dyspnea, and Kidney Failure
Andrew S. Bomback
Review

The Use of a Multidimensional Measure of Dialysis Adequacy—Moving beyond Small Solute Kinetics
Jeffrey Perl, Laura M. Dember, Joanne M. Bargman, Teri Browne, David M. Charytan, Jennifer E. Flythe, LaTonya J. Hickson, Adriana M. Hung, Michel Jadoul, Timmy Chang Lee, Klemens B. Meyer, Hamid Moradi, Tariq Shafi, Isaac Teitelbaum, Leslie P. Wong, and Christopher T. Chan, and on behalf of the American Society of Nephrology Dialysis Advisory Group

Public Policy Series

New Organ Allocation System for Combined Liver-Kidney Transplants and the Availability of Kidneys for Transplant to Patients with Stage 4–5 CKD
William S. Asch and Margaret J. Bia

Special Feature

Serious Illness Conversations in ESRD
Ernest I. Mandel, Rachelle E. Bernacki, and Susan D. Block

On the Cover

What is the diagnosis? A 73-year-old man was seen for rising serum creatinine (1.1 mg/dl → 3.8 mg/dl) associated with malaise and fatigue. One-week prior, the patient was exposed to antibiotics for a urinary tract infection. Vital signs were stable and physical examination revealed clear lungs, normal heart sounds, benign abdomen, and 1+ lower extremity edema without skin rash. Urinalysis showed 1+ blood and trace leukocyte esterase. Urine sediment examination revealed isomorphic red blood cells, white blood cells, renal tubular epithelial cells, a few finely granular casts, and a white blood cell cast. The patient underwent kidney biopsy to evaluate acute kidney injury with active urine sediment. Hepatitis B surface antigen and hepatitis C antibody were negative, while hepatitis B surface antibody was positive. MPO-ANCA was positive at low titer. The patient received oral prednisone 60 mg/day with improvement of kidney function (serum Cr at 1.8 mg/dl).

The kidney biopsy revealed an interstitial infiltrate consisting of lymphocytes, plasma cells, and eosinophils as well as a medium vessel vasculitis consistent with polyarteritis nodosa. As seen on the cover image, a medium sized vessel stained with PAS, silver and trichrome demonstrates a leukocytic infiltrate within the vessel wall. Narrowing of the vessel lumen is also present. Polyarteritis nodosa (PAN) is a rare disorder that consists of a necrotizing vasculitis affecting primarily medium-sized arteries. It can affect all age groups, with a peak incidence in the fourth and fifth decades. PAN is often associated with positive hepatitis B surface antigen, but this finding is not universal. PAN is most often a multi-system disease, but can be limited to vasculitis involving one organ system. Patients generally present with constitutional symptoms and a vague systemic illness depending on the organs involved. Muscle, nerve, gastrointestinal tract, skin, joint, kidney, and lung are some of the organs involved. ANCA serology is often negative unless there is a concomitant small vessel vasculitis. Angiography reveals multiple aneurysms (beading) of affected vessels most commonly involving the celiac axis and renal vessels. Biopsy of muscle or sural nerve may demonstrate the necrotizing vasculitis. It is generally recommended to avoid kidney biopsy due to a risk of aneurysmal rupture and bleeding; however, renal biopsy has been performed safely. PAN histology consists of focal necrotizing arteritis consisting of a mixed cellular infiltrate within the vessel wall.

(Images and text provided by Eric Chang, MD, Randy Luciano, MD, PhD, Gilbert Moeckel, MD and Mark A. Perazella, MD, Yale University School of Medicine, New Haven, Connecticut)