Editorials

633 Renal Angina: Right Concept . . . Wrong Name?
Paul M. Palevsky
See related article on pages 654 and 663.

635 Which Patients Benefit from Initiation of Dialysis for AKI?
Neesh Pannu
See related article on page 673.

638 Insulin Resistance in CKD
Sarah Leyking and Danilo Fliser
See related article on page 690.

641 Should Rituximab Be Used to Prevent Relapse in Patients with ANCA-Associated Vasculitis?
Stephen P. McAdoo and Charles D. Pusey
See related article on page 736.

645 Recalibrating Vascular Access for Elderly Patients
Matthew J. Oliver and Robert R. Quinn
See related article on page 764.

Original Articles

Acid/Base and Electrolyte Disorders

648 Prevalence and Correlates of Metabolic Acidosis among Patients with Homozygous Sickle Cell Disease
Stéphane Maurel, Katia Stankovic Stojanovic, Virginie Avellino, Alexey Girshovich, Emmanuel Letavernier, Gilles Grateau, Laurent Baud, Robert Girot, Francois Lionnet, and Jean-Philippe Haymann

Acute Kidney Injury /Acute Renal Failure

654 Incorporation of Biomarkers with the Renal Angina Index for Prediction of Severe AKI in Critically Ill Children
See related editorial on page 633.

663 Utilization of Small Changes in Serum Creatinine with Clinical Risk Factors to Assess the Risk of AKI in Critically Ill Adults
Dinna N. Cruz, Asunción Ferrer-Nadal, Pasquale Piccinni, Stuart L. Goldstein, Lakhmir S. Chawla, Elisa Alessandri, Clara Belluomo Anello, Will Bohannon, Tiziana Bove, Nicola Brienza, Mauro Carlini, Francesco Forlì, Francesco Garzotto, Silvia Gramaticopolo, Michele Iannuzzi, Luca Montini, Paolo Pelaia, and Claudio Ronco, for the NEFROINT Investigators
See related editorial on page 633.

673 Dialysis versus Nondialysis in Patients with AKI: A Propensity-Matched Cohort Study
F. Perry Wilson, Wei Yang, Carlos A. Machado, Laura H. Mariani, Yuliya Borovskiy, Jeffrey S. Berns, and Harold I. Feldman
See related editorial on page 635.

Performance and Limitations of Administrative Data in the Identification of AKI
Morgan E. Grams, Sushrut S. Waikar, Blaithin MacMahon, Seamus Whelton, Shoshana H. Ballew, and Josef Coresh
Chronic Kidney Disease

690 Clinical Correlates of Insulin Sensitivity and Its Association with Mortality among Men with CKD Stages 3 and 4
  Hong Xu, Xiaoyan Huang, Johan Ärnlöv, Tommy Cederholm, Peter Stenvinkel, Bengt Lindholm, Ulf Risérus, and Juan Jesús Carrero
  See related editorial on page 638.

698 Association of Kidney Function with Changes in the Endothelial Surface Layer
  Martijn J.C. Dane, Meriem Khairoun, Dae Hyun Lee, Bernard M. van den Berg, Bart J.M. Eskens, Margien G.S. Boels, Jurgen W.G.E. van Teeffelen, Angelique L.W.M.M. Rops, Johan van der Vlag, Anton Jan van Zonneveld, Marlies E.J. Reinders, Hans Vink, and Ton J. Rabelink

705 A Randomized Comparison of Ferumoxytol and Iron Sucrose for Treating Iron Deficiency Anemia in Patients with CKD
  Iain C. Macdougall, William E. Strauss, Justin McLaughlin, Zhu Li, Frank Dellanna, and Joachim Hertel

713 Prevalence, Awareness, and Management of CKD and Cardiovascular Risk Factors in Publicly Funded Health Care
  Jacobien C. Verhave, Stéphane Troyanov, Frédéric Mongeau, Lorraine Fradette, Josée Bouchard, Philip Awadalla, and François Madore

Clinical Nephrology

720 Accuracy of GFR Estimation in Obese Patients
  Sandrine Lemoine, Fitsum Guebre-Egziabher, Florence Sens, Marie-Sophie Nguyen-Tu, Laurent Juillard, Laurence Dubourg, and Aoumeur Hadj-Aissa

728 A Predictive Model of Progression of CKD to ESRD in a Predialysis Pediatric Interdisciplinary Program

736 Long-Term Maintenance Therapy Using Rituximab-Induced Continuous B-Cell Depletion in Patients with ANCA Vasculitis
  William F. Pendergraft III, Frank B. Cortazar, Julia Wenger, Andrew P. Murphy, Eugene P. Rhee, Karen A. Laliberte, and John L. Niles
  See related editorial on page 641.

Epidemiology and Outcomes

745 Biomarkers of Vascular Calcification and Mortality in Patients with ESRD

756 Race, Ethnicity, and State-by-State Geographic Variation in Hemorrhagic Stroke in Dialysis Patients
  James B. Wetmore, Milind A. Phadnis, Jonathan D. Mahnken, Edward F. Ellerbeck, Sally K. Rigler, Xinhua Zhou, and Theresa I. Shireman

ESRD and Chronic Dialysis

764 Risk of Catheter-Related Bloodstream Infection in Elderly Patients on Hemodialysis
  Mariana Murea, Kimone M. James, Greg B. Russell, Graham V. Byrum Ill, James E. Yates, Nicholas S. Tuttle, Anthony J. Bleyer, John M. Burkart, and Barry I. Freedman
  See related editorial on page 645.

771 Alkaline Phosphatase and Mortality in Patients on Peritoneal Dialysis
  Xinhui Liu, Qunying Guo, Xiaoran Feng, Juan Wang, Juan Wu, Haiping Mao, Fengxian Huang, Xueqing Yu, and Xiao Yang

779 Metabolic Syndrome in Peritoneal Dialysis Patients: Choice of Diagnostic Criteria and Prognostic Implications
  Cheuk-Chun Szeto, Bonnie Ching-Ha Kwan, Kai-Ming Chow, Chi-Bon Leung, Mei-Shan Cheng, Man-Ching Law, and Philip Kam-Tao Li

Genetics

788 Association of Systemic Lupus Erythematosus Susceptibility Genes with IgA Nephropathy in a Chinese Cohort
  Xu-Jie Zhou, Fa-Juan Cheng, Li Zhu, Ji-Cheng Lv, Yuan-Yuan Qi, Ping Hou, and Hong Zhang
Attending Rounds

798    Attending Rounds: A Patient with Intradialytic Hypotension
       Robert F. Reilly

Ethics Series

804    The Demented Patient Who Declines to Be Dialyzed and the Unhappy Armed Police Officer Son: What Should Be Done?
       Michael Allon, Glenda Harbert, Renée Bova-Collis, Stephen V. Roberts, and Alvin H. Moss

Special Features

809    Defining Kidney Biology to Understand Renal Disease
       Melissa H. Little, Dennis Brown, Benjamin D. Humphreys, Andrew P. McMahon, Jeffrey H. Miner, Jeff M. Sands, Ora A. Weisz, Chris Mullins, and Deborah Hoshizaki, on behalf of the Kidney Research National Dialogue (KRND)

812    Dialysis Therapies: A National Dialogue
       Rajnish Mehrotra, Anil Agarwal, Joanne M. Bargman, Jonathan Himmelfarb, Kirsten L. Johansen, Suzanne Watnick, Jack Work, Kevin McBryde, Michael Flessner, and Paul L. Kimmel, on behalf of the Kidney Research National Dialogue (KRND)

815    Improving CKD Therapies and Care: A National Dialogue
       Frederick Kaskel, Daniel Batlle, Srinivasan Beddhu, John Daugirdas, Harold Feldman, Maria Ferris, Lawrence Fine, Barry I. Freedman, Paul L. Kimmel, Michael F. Flessner, and Robert A. Star, on behalf of the Kidney Research National Dialogue (KRND)

818    American Society of Nephrology Clinical Pathological Conference
       Kevin E. Meyers, Helen Liapis, and Mohamed G. Atta

Erratum

829    Correction

 JPEG club provides a timely and interactive electronic journal club experience by offering a forum in which CJASN readers have the opportunity to converse with the featured study authors. Visit ejc.cjasn.org to learn more.

On the Cover

What’s the diagnosis? A 56-year-old man with type-2 diabetes mellitus developed malaise, fever, altered sensorium, jaundice and AKI. The patient recalled a tick bite 4 weeks prior while hiking. The patient was febrile, tachypneic and oligo-anuric (<100 mL/24 hours) despite >3 liters of crystalloid. He was jaundiced with lung crackles and mild hepatomegaly. Multiple laboratory abnormalities included hyponatremia, anion gap metabolic acidosis, increased serum creatinine, indirect hyperbilirubinemia, anemia, and thrombocytopenia (with elevated LDH and depressed haptoglobin). RBC smear demonstrated 36% parasitemia. IgM and IgG for Babesia microti were positive. Chest roentgenogram demonstrated diffuse bilateral interstitial edema. Automated urinalysis demonstrated a specific gravity of 1.014, pH 5.5, large blood, 3+ protein, and 1+ leukocyte esterase. Protein:creatinine ratio was 2.5 mg/mg creatinine. Urine sediment revealed multiple muddy brown granular casts and large macrophages with multiple inclusions (upper left and right panels). Urine was sent for Papanicolaou stain, which confirmed the cells as macrophages with numerous RBC fragments. Giemsa stain of the urine demonstrated Babesia inclusions in the RBC cytoplasm (lower left panel). Macrophages were actively phagocytosing RBCs (lower right panel). The patient was treated with RBC exchange transfusions and plasmapheresis, and combination anti-microbial agents. Despite this, he remained oligo-anuric and underwent hemodialysis. The parasite burden decreased to undetectable within ten days of plasmapheresis and anti-microbial therapy. Despite this, the patient remained dialysis-dependent at 3 weeks and underwent a kidney biopsy. Acute interstitial nephritis characterized by lymphocytes, macrophages, plasma cells and rare small granuloma was seen. Isolated macrophages, containing red blood cell fragments, were seen in the tubular lumen and macrophages were identified in the interstitium using CD68-KP1 immune histochemistry stain. In this case, examination of the urine sediment provided early insight into inflammatory kidney involvement by the parasite. Giant urinary macrophages with RBC fragments were noted on microscopy of the spun sediment (upper panels), which led to demonstration of macrophages actively phagocytosing parasitized RBCs (lower right panel). Babesia ring forms within urinary RBCs confirmed the presence of parasitized RBCs within the urine (lower left panel). As macrophages participate in surveillance and phagocytosis of cellular debris and pathogens in the kidney parenchyma and play a role in innate immunity and chemokine and cytokine-induced signaling, they ultimately help eradicate microbes within the kidney. It is likely that the immune reaction responsible for the granulomatous AIN in our case was initially generated by Babesia. (Images and text provided by Randy L. Luciano, MD, and Mark A. Perazella, MD Yale University School of Medicine, New Haven, Connecticut)