Editorials

1505 Checklists as Computer Decision Support at the Point of Care: A Step Forward in the Recognition and Treatment of CKD by Primary Care Physicians
Chester Fox and Joseph Vassalotti
See related article on page 1526.

1507 Can Biomarkers of Disease Activity Guide Treatment in FSGS?
Kirk N. Campbell and John C. He
See related article on page 1545.

1510 A Policy of Preemption: The Timing of Renal Replacement Therapy in AKI
F. Perry Wilson
See related article on page 1577.

1513 Can Oral Therapy Reduce Uremic Toxins?
Thomas A. Depner and Larry D. Cowgill
See related article on page 1603.

1516 Factors Influencing Treatment of Atypical Hemolytic Uremic Syndrome
Carla M. Nester and Richard J.H. Smith
See related article on page 1611.

Original Articles

Chronic Kidney Disease

1519 Medication Adherence and Growth in Children with CKD
Oleh M. Akchurin, Michael F. Schneider, Lucy Mulqueen, Ellen R. Brooks, Craig B. Langman, Larry A. Greenbaum, Susan L. Furth, Marva Moxey-Mims, Bradley A. Warady, Frederick J. Kaskel, and Amy L. Skversky

1526 Implementation of a CKD Checklist for Primary Care Providers
Mallika L. Mendu, Louise I. Schneider, Ayal A. Aizer, Karandeep Singh, David E. Leaf, Thomas H. Lee, and Sushrut S. Waikar
See related editorial on page 1505.

1536 Preoperative Hemoglobin and Outcomes in Patients with CKD Undergoing Cardiac Surgery
Linda Shavit, Sharbel Hitti, Shuli Silberman, Rachel Tauber, Ofer Merin, Meyer Liñschitz, Itzhak Slotki, Daniel Bitran, and Daniel Fink

1545 Evaluation of MicroRNAs miR-196a, miR-30a-5P, and miR-490 as Biomarkers of Disease Activity among Patients with FSGS
Wanfen Zhang, Changming Zhang, Huimei Chen, Limin Li, Yuanmao Tu, Chunbei Liu, Shaolin Shi, Ke Zen, and Zhihong Liu
See related editorial on page 1507.

1553 Kidney Function and Plasma Copeptin Levels in Healthy Kidney Donors and Autosomal Dominant Polycystic Kidney Disease Patients
Clinical Nephrology

1563 Safety and Efficacy of Tandem Hemodialysis and Plasma Exchange in Children
Betti Schaefer, Akos Ujszaszi, Susanne Schaefer, Karl Heinz Heckert, Franz Schaefer, and Claus Peter Schmitt

1571 Long-Term Follow-Up of Cyclophosphamide Compared with Azathioprine for Initial Maintenance Therapy in ANCA-Associated Vasculitis
Michael Walsh, Mikkel Faurschou, Annelies Berden, Oliver Flossmann, Ingeborg Bajema, Peter Hoglund, Rona Smith, Wladimir Szpirt, Kerstin Westman, Charles D. Pusey, and David R.W. Jayne, for the European Vasculitis Study Group

Critical Care Nephrology

1577 Timing of RRT Based on the Presence of Conventional Indications
Suvi T. Vaara, Matti Reinikainen, Ron Wald, Sean M. Bagshaw, Ville Pettilä, and The FINNAKI Study Group
See related editorial on page 1510.

Epidemiology and Outcomes

1586 Risk of ESRD and Death in Patients with CKD Not Referred to a Nephrologist: A 7-Year Prospective Study
Roberto Minutolo, Francesco Lapi, Paolo Chiodini, Monica Simonetti, Elisa Bianchini, Serena Pecchioli, Iacopo Cricelli, Claudio Cricelli, Gaetano Piccinocchi, Giuseppe Conte, and Luca De Nicola

ESRD and Chronic Dialysis

1594 Associations of Depressive Symptoms and Pain with Dialysis Adherence, Health Resource Utilization, and Mortality in Patients Receiving Chronic Hemodialysis
Steven D. Weisbord, Maria K. Mor, Mary Ann Sevick, Anne Marie Shields, Bruce L. Rollman, Paul M. Palevsky, Robert M. Arnold, Jamie A. Green, and Michael J. Fine

1603 Effect of Increasing Dietary Fiber on Plasma Levels of Colon-Derived Solutes in Hemodialysis Patients
Tammy L. Sirich, Natalie S. Plummer, Christopher D. Gardner, Thomas H. Hostetter, and Timothy W. Meyer
See related editorial on page 1513.

Genetics

1611 Complement Mutations in Diacylglycerol Kinase-ε–Associated Atypical Hemolytic Uremic Syndrome
Daniel Sánchez Chinchilla, Sheila Pinto, Bernd Hoppe, Marta Adragna, Laura Lopez, Maria Luisa Justa Roldan, Antonia Peña, Margarita Lopez Trascasa, Pilar Sánchez-Coral, and Santiago Rodríguez de Córdoba
See related editorial on page 1516.

Mineral Metabolism/Bone Disease

1620 A Randomized Multicenter Trial of Paricalcitol versus Calcitriol for Secondary Hyperparathyroidism in Stages 3–4 CKD
Daniel W. Coyne, Seth Goldberg, Mark Faber, Cybele Ghossein, and Stuart M. Sprague

Renal Physiology

1627 Proximal Tubule Function and Response to Acidosis
Norman P. Curthoys and Orson W. Moe

Commentary

1639 Training the Next Generation’s Nephrology Workforce
Jeffrey S. Berns, David H. Ellison, Stuart L. Linas, and Mitchell H. Rosner

1645 The Approval Process for Biosimilar Erythropoiesis-Stimulating Agents
Jay B. Wish
On the Cover

What’s the diagnosis? A 33-year-old woman with unremarkable past medical history except for a diagnosis of atypical migraine headaches 6 months ago recently noted the acute onset of mild ankle swelling that rapidly worsened and progressed to involve her upper thighs. In addition, she noted increasing fatigue and malaise, 25 pound weight gain, and loss of appetite. Her only medications included oral contraception pill, multi-vitamins, and occasional naproxen for headaches. On evaluation in an ambulatory care clinic, physical examination revealed 3+ pitting edema of her lower extremities including her thighs. There were no joint swelling, skin rash or other abnormal exam findings. Serum chemistries were notable for normal electrolytes, BUN 45 mg/dl, serum creatinine 4.3 mg/dl, and serum albumin 2.1 g/dl. Urinalysis revealed SG 1.014, pH 5.5, 3+ protein, negative blood, and trace leukocytes. Urine microscopy demonstrated 1-3 renal tubular epithelial cells/HPF, 0-2 white blood cells/HPF, 2-6 oval fat bodies /HPF, and 1-2 lipid casts/LPF. 24-hour urine collection contained 8.6 grams of protein. The patient underwent kidney biopsy for AKI and nephrotic syndrome, which revealed diffuse interstitial infiltrate containing lymphocytes, PMNs and eosinophils (left panel) consistent with drug-induced acute interstitial nephritis (AIN). The right panel shows globally effaced foot processes without deposits consistent with minimal change disease (MCD). The combination of eosinophil-dominant AIN and MCD pointed to naproxen as the underlying cause of the kidney lesion. Naproxen was discontinued and oral prednisone (60 mg/day) was administered for 4 weeks followed by taper with improvement in kidney function (serum creatinine 1.3 mg/dl) and resolution of proteinuria. NSAID-induced renal syndromes include a number of electrolyte/acid-base and other kidney lesions. In this case, naproxen caused 2 of those lesions—AIN and MCD. The mechanism by which these 2 lesions develop with NSAIDs is not known, but is speculated to be due to shunting of arachidonic acid pathway into the lipoxygenase pathway with production of proinflammatory and vasoactive leukotrienes. It is possible that leukotrienes promote interstitial inflammation and injure glomerular epithelial cells (podocytes). Therapy consists of NSAID discontinuation, and steroids if kidney function and nephrotic proteinuria do not improve. In general, patients recover from this renal lesion, but permanent chronic kidney disease may occur later. (Images and text provided by Gilbert Moeckel, MD and Mark A. Perazella, MD, Yale University School of Medicine, New Haven, Connecticut)