Editorials

1721 Recognizing the Elephant in the Room: Palliative Care Needs in Acute Kidney Injury
Amar D. Bansal and Jane O. Schell
See related article on page 1744.

1723 APOL1 and Proteinuria in the AASK: Unraveling the Pathobiology of APOL1
John F. O’Toole, Leslie A. Bruggeman, and John R. Sedor
See related article on page 1771.

1726 Metabolomics and Kidney Precision Medicine
Sahir Kalim and Eugene P. Rhee
See related article on page 1787.

1728 Long Overdue Need to Reduce Infections with Hemodialysis
Alan S. Kliger and Allan J. Collins
See related article on page 1814.

1730 Feedback Control in Hemodialysis—Much Ado about Nothing?
Manfred Hecking and Daniel Schneditz
See related article on page 1831.

Original Articles

1733 Health Care Costs Associated with AKI
David Collister, Neesh Pannu, Feng Ye, Matthew James, Brenda Hemmelgarn, Betty Chui, Braden Manns, and Scott Klarenbach, on behalf of the Alberta Kidney Disease Network

1744 Infrequent Provision of Palliative Care to Patients with Dialysis-Requires AKI
Kelly Chong, Samuel A. Silver, Jin Long, Yuanchao Zheng, V. Shane Pankratz, Mark L. Unruh, and Glenn M. Chertow
See related editorial on page 1721.

1753 Disparity between Nephrologists’ Opinions and Contemporary Practices for Community Follow-Up after AKI Hospitalization
Divya J. Karsanjji, Neesh Pannu, Braden J. Manns, Brenda R. Hemmelgarn, Zhi Tan, Kailash Jindal, Nairne Scott-Douglas, and Matthew T. James

1762 Nephrology Provider Prognostic Perceptions and Care Delivered to Older Adults with Advanced Kidney Disease

1771 APOL1 Risk Variants, Incident Proteinuria, and Subsequent eGFR Decline in Blacks with Hypertension-Attributed CKD
Teresa K. Chen, Adrienne Tin, Carmen A. Peralta, Lawrence J. Appel, Michael J. Choi, Michael S. Lipkowitz, Cheryl A. Winkler, and Michelle M. Estrella
See related editorial on page 1723.
Chronic Kidney Disease (Continued)

1778 Patterns of NSAIDs Use and Their Association with Other Analgesic Use in CKD

1787 Metabolomic Alterations Associated with Cause of CKD
Morgan E. Grams, Adrienne Tin, Casey M. Rebholz, Tariq Shafi, Anna Köttgen, Ronald D. Perrone, Mark J. Sarnak, Lesley A. Inker, Andrew S. Levey, and Josef Coresh
See related editorial on page 1726.

1795 Fibroblast Growth Factor 23 and Anemia in the Chronic Renal Insufficiency Cohort Study
Rupal Mehta, Xuan Cai, Alexander Hodakowski, Jungwha Lee, Mary Leonard, Ana Ricardo, Jing Chen, Lee Hamm, James Sondheimer, Mirela Dobre, Valentin David, Wei Yang, Alan Go, John W. Kusek, Harold Feldman, Myles Wolf, and Tamara Isakova, for the CRIC Study Investigators

1804 Pooled Analysis of Multiple Crossover Trials To Optimize Individual Therapy Response to Renin-Angiotensin-Aldosterone System Intervention

Maintenance Dialysis

1814 Risk of Infective Endocarditis in Patients with End Stage Renal Disease
Mavish S. Chaudry, Nicholas Carlson, Gunnar H. Gislason, Mary Leonard, Ana Ricardo, Jing Chen, Lee Hamm, James Sondheimer, Mirela Dobre, Valentin David, Wei Yang, Alan Go, John W. Kusek, Harold Feldman, Myles Wolf, and Tamara Isakova, for the CRIC Study Investigators
See related editorial on page 1728.

1823 Vascular Access Type and Clinical Outcomes among Elderly Patients on Hemodialysis
Timmy Lee, Mae Thamer, Qian Zhang, Yi Zhang, and Michael Allon

1831 Randomized Crossover Trial of Blood Volume Monitoring–Guided Ultrafiltration Biofeedback to Reduce Intradialytic Hypotensive Episodes with Hemodialysis
Kelvin C.W. Leung, Robert R. Quinn, Pietro Ravani, Henry Duff, and Jennifer M. MacRae
See related editorial on page 1730.

1841 Racial Differences in Home Dialysis Utilization and Outcomes in Canada
Emilie Trinh, Yingbo Na, Manish M. Sood, Christopher T. Chan, and Jeffrey Perl

Transplantation

1852 The Lived Experience of “Being Evaluated” for Organ Donation: Focus Groups with Living Kidney Donors
Camilla S. Hanson, Angelique F. Ralph, Karine E. Manera, John S. Gill, John Kanellis, Germaine Wong, Jonathan C. Craig, Jeremy R. Chapman, and Allison Tong

Glomerular Diseases: Update for the Clinician

1862 Pregnancy and Glomerular Disease: A Systematic Review of the Literature with Management Guidelines
Kimberly Blom, Ayodele Odutayo, Kate Bramham, and Michelle A. Hladunewich

Kidney Case Conference: Nephrology Quiz and Questionnaire

1873 Management of a Patient with Catheter-Related bloodstream Infection
Charmaine E. Lok

Perspectives

1878 Being Thoughtful about Desensitization
Richard N. Formica Jr. and Sanjay Kulkarni
Perspectives (Continued)

1881 Introduction to Patient-Reported Outcomes Perspectives Series
Manjula Kurella Tamura

1882 Considerations and Challenges in Selecting Patient-Reported Outcome Measures for Clinical Trials in Nephrology
Angela Ju and Allison Tong

1885 Time to Rethink Our Approach to Patient-Reported Outcome Measures for ESRD
Fredric O. Finkelstein and Susan H. Finkelstein

1889 Using Patient-Reported Measures in Dialysis Clinics
John D. Peipert and Ron D. Hays

Feature

1892 Statistical Methods for Modeling Time-Updated Exposures in Cohort Studies of Chronic Kidney Disease
Dawei Xie, Wei Yang, Christopher Jepson, Jason Roy, Jesse Y. Hsu, Haochang Shou, Amanda H. Anderson, J. Richard Landis, and Harold I. Feldman on behalf of the Chronic Renal Insufficiency Cohort (CRIC) Study Investigators

Review

1900 Perspectives from the Kidney Health Initiative on Advancing Technologies to Facilitate Remote Monitoring of Patient Self-Care in RRT

On the Cover

What’s the diagnosis?

Case description:
A 55-year-old woman with AIDS presented with anorexia, vomiting and weight loss. Two months prior she initiated antiretroviral therapy and treatment for disseminated Mycobacterium tuberculosis (Mtb). Labs revealed acute kidney injury, serum creatinine (SCr) of 1.5 mg/dL from 0.7 mg/dL over 6 weeks, and subnephrotic-range proteinuria (2.8 g/dL). Urine microscopy showed granular casts and red and white blood cells without bacteria. Urine, blood and sputum cultures for acid-fast bacilli (AFB) were negative. Renal ultrasound was unremarkable and computerized tomography demonstrated improvement in both pulmonary opacities and thoracic and retroperitoneal lymphadenopathy. Immune reconstitution inflammatory syndrome (IRIS) was suspected and a short course of steroids was given. SCr initially improved but then worsened, prompting a kidney biopsy.

Images:
- Left panel: The cortex shows a granulomatous interstitial nephritis (GIN) with poorly formed, coalescing granulomas composed of epithelioid histiocytes and occasional multinucleated giant cells, with an associated lymphoplasmacytic inflammatory infiltrate. There is no necrosis or significant neutrophilic or eosinophilic inflammation. The glomeruli are normal.
- Right panel: Multiple AFB identified within granulomas with a focal beaded appearance on AFB stain.

Teaching points:
- The histological differential diagnosis for GIN includes drug-induced, sarcoidosis, deposition of crystals or other foreign material, infection, granulomatosis with polyangiitis, tubulointerstitial nephritis with uveitis and IRIS.
- IRIS-related kidney disease was considered. IRIS is an inflammatory disorder characterized by paradoxical worsening during immune recovery of manifestations of pre-existing opportunistic infections, which generally responds to steroids. Although renal injury from IRIS is rare, mycobacterium is the main associated infection. Renal biopsy in patients with IRIS demonstrates non-caseating GIN without microorganisms.
- In this case, the GIN is associated with AFB, which most likely represents Mtb given their morphology and the clinical history of previous disseminated Mtb infection. Sterile pyuria and hematuria can be seen. The kidneys are common targets when Mtb hematogenously disseminates. Treatment consists of continuing Mtb therapy for a full nine months.

(Images and text provided by Kelly Mazurek, Nicole Andeen, Roberto Nicosía, and Leah Haseley, University of Washington, Seattle, Washington)