# Editorials

377  Preservation of Residual Kidney Function and Urine Volume in Patients on Dialysis  
Raymond T. Krediet  
See related article on page 426.

380  Is the End in Sight for the “Don’t Ask, Don’t Tell” Approach to Advance Care Planning?  
Rachel C. Carson and Rachelle Bernacki  
See related article on page 435.

382  When All You Have Is a Hammer: The Need for Tools to Define and Apply Patient-Centered Outcomes in Hemodialysis  
C. Barrett Bowling and Laura C. Plantinga  
See related article on page 454.

385  Opportunities and Challenges for Kidney Donation from and to HIV-Positive Individuals  
Sindhu Chandran and Peter G. Stock  
See related article on page 467.

388  Optimizing Graft Survival by Pretreatment of the Donor  
Sandy Feng  
See related article on page 493.

# Original Articles

## Chronic Kidney Diseases

391  Cognitive Testing in Patients with CKD: The Problem of Missing Cases  
Denise Neumann, Maxi Robinski, Wilfried Mau, and Matthias Girndt

399  A Randomized Crossover Trial of Dietary Sodium Restriction in Stage 3–4 CKD  

408  A Multicenter Cohort Study of Histologic Findings and Long-Term Outcomes of Kidney Disease in Women Who Have Been Pregnant  
Philip Webster, Louise M. Webster, H. Terence Cook, Catherine Horsfield, Paul T. Seed, Raquel Vaz, Clara Santos, Isabelle Lydon, Michele Homsy, Liz Lightstone, and Kate Bramham

## Clinical Nephrology

417  Risk Factors for Renal Survival in Chinese Patients with Myeloperoxidase-ANCA–Associated GN  
Yinghua Chen, Hao Bao, Zhengzhao Liu, Xia Liu, Erzhi Gao, Caihong Zeng, Haitao Zhang, Zhihong Liu, and Weixin Hu

## ESRD and Chronic Dialysis

426  Prognostic Value of Residual Urine Volume, GFR by 24-hour Urine Collection, and eGFR in Patients Receiving Dialysis  
Mi Jung Lee, Jung Tak Park, Kyoung Sook Park, Young Eun Kwon, Hyung Jung Oh, Tae-Hyun Yoo, Yong-Lim Kim, Yon Su Kim, Chul Woo Yang, Nam-Ho Kim, Shin-Wook Kang, and Seung Hyeok Han  
See related editorial on page 377.
Original Articles (Continued)

Geriatric Nephrology

435 Advance Directives and End-of-Life Care among Nursing Home Residents Receiving Maintenance Dialysis
Manjula Kurella Tamura, Maria E. Montez-Rath, Yoshio N. Hall, Ronit Katz, and Ann M. O’Hare
See related editorial on page 380.

443 Perspectives of Older Kidney Transplant Recipients on Kidney Transplantation
Jule Pinter, Camilla S. Hanson, Jeremy R. Chapman, Germaine Wong, Jonathan C. Craig, Jane O. Schell, and Allison Tong

Health Services Research

454 Nephrologists’ Perspectives on Defining and Applying Patient-Centered Outcomes in Hemodialysis
Allison Tong, Wolfgang C. Winkelmayer, David C. Wheeler, Wim van Biesen, Peter Tugwell, Braden Manns, Brenda Hemmelgarn, Tess Harris, Sally Crowe, Angela Ju, Emma O’Lone, Nicole Evangelidis, and Jonathan C. Craig, for the SONG-HD Initiative
See related editorial on page 382.

467 Access to Kidney Transplantation among HIV-Infected Waitlist Candidates
Jayme E. Locke, Shikha Mehta, Deirdre Sawinski, Sally Gustafson, Brittany A. Shelton, Rhiannon D. Reed, Paul MacLennan, Charlotte Bolch, Christine Durand, Allan Massie, Roslyn B. Mannon, Robert Gaston, Michael Saag, Turner Overton, and Dorry L. Segev
See related editorial on page 385.

Nephrolithiasis

476 Risk of Hypertension among First-Time Symptomatic Kidney Stone Formers
Wonngarm Kittanamongkolchai, Kristin C. Mara, Ramila A. Mehta, Lisa E. Vaughan, Aleksandar Denic, John J. Knoedler, Felicity T. Enders, John C. Lieske, and Andrew D. Rule

Renal Transplantation

483 Linguistic Isolation and Access to the Active Kidney Transplant Waiting List in the United States
Efrain Talamantes, Keith C. Norris, Carol M. Mangione, Gerardo Moreno, Amy D. Waterman, John D. Peipert, Suphamai Bunnapradist, and Edmund Huang

493 Effects of Dopamine Donor Pretreatment on Graft Survival after Kidney Transplantation: A Randomized Trial
Peter Schnuelle, Wilhelm H. Schmitt, Christel Weiss, Antje Habicht, Lutz Renders, Martin Zeier, Felix Drüsчерl, Katharina Heller, Przemyslaw Pisarski, Bernhard Banas, Bernhard K. Krämer, Matthias Jung, Kai Lopau, Christoph J. Olbricht, Horst Weihprecht, Peter Schenker, Johan W. De Fijter, Benito A. Yard, and Urs Benck
See related editorial on page 388.

Glomerular Diseases: Update for the Clinician

502 Focal Segmental Glomerulosclerosis
Avi Z. Rosenberg and Jeffrey B. Kopp

Education Series

518 What Are We Doing? A Survey of United States Nephrology Fellowship Program Directors
Scott E. Liebman, Catherine A. Moore, Rebeca D. Monk, and Mahrulkh S. Rizvi

In-Depth Review

524 Recognition and Management of Resistant Hypertension
Branko Braam, Sandra J. Taler, Mahboob Rahman, Jennifer A. Fillaus, Barbara A. Greco, John P. Forman, Efrain Reisin, Debbie L. Cohen, Mohammad G. Saklayen, and S. Susan Hedayati
Consolidation in the Dialysis Industry, Patient Choice, and Local Market Competition

Kevin F. Erickson, Yuanchao Zheng, Wolfgang C. Winkelmayer, Vivian Ho, Jay Bhattacharya, and Glenn M. Chertow

Use of Causal Diagrams to Inform the Design and Interpretation of Observational Studies: An Example from the Study of Heart and Renal Protection (SHARP)


On the Cover

A 77 year-old man status post renal transplant in 2014 presented with acute kidney injury (serum creatinine of 4.4 mg/dl, elevated from his baseline of 0.7 mg/dl). Prior to this presentation, the patient had a history of upper respiratory infection with bilateral pulmonary infiltrates, and was treated with antibiotics and steroids for one month without improvement of symptoms and with a progressive decline in renal function. A kidney biopsy was performed with clinical concern for rejection. By light microscopy, patchy necrotizing granulomatous inflammation was identified (left image). Special stains for fungal organisms and acid fast bacilli (AFB) were negative. Rare tubular epithelial cells demonstrated viral cytopathic effect with enlarged, smudgy-appearing nuclei (center, top). These same cells show strong nuclear immunoreactivity for adenovirus (center, bottom) and were negative for cytomegalovirus and polyoma virus. Subsequent testing by PCR revealed high titer adenovirus in the serum. Electron microscopy identified nuclei with viral inclusions composed of organized arrays of non-enveloped polyhedral viral particles characteristic of adenovirus (right image). These findings are consistent with Adenovirus nephropathy. Polyoma viruses (e.g., BK and JC virus) are the most common viral infections of the kidney allograft. Adenovirus, a non-encapsulated DNA virus can rarely cause renal dysfunction that can be serious in immunocompromised allograft recipients. Necrotizing granulomatous inflammation is often seen in adenoviral infections of the kidney allograft, and its presence should trigger appropriate workup to rule out other infectious etiologies that have similar histologic findings (e.g., infections caused by fungal organisms and acid fast bacilli). Since it is rare, treatment methods reported in the literature vary from supportive care to reduction of immunosuppression with addition of IVIG and/or anti-viral agents such as cidofovir or gancyclovir. (Images provided by Mirna Tokatly, Renal Pathology Fellow and Shreeram Akilesh, Assistant Professor, University of Washington, Seattle, Washington)