

CJASN

Clinical Journal of the American Society of Nephrology

April 2017 • Vol. 12 • No. 4

Editorials

553 Can Renal Biopsy Be Used to Estimate Total Nephron Number?

Jennifer R. Charlton and Carolyn L. Abitbol
See related article on page 585.

556 Temporal Trends in the Epidemiology of Biopsy-Proven Glomerular Diseases: An Alarming Increase in Diabetic Glomerulosclerosis

Jean Hou and Mark Haas
See related article on page 614.

559 Managing Complexity in Older Patients with CKD

Jessica W. Weiss and Cynthia M. Boyd
See related article on page 635.

562 Noninvasive Imaging of Bone Microarchitecture in Patients Receiving Renal Transplant: Can it Replace Histology?

Maria Coco and James M. Pullman
See related article on page 644.

565 Donor Quality in the Eye of the Beholder: Interactions between Nonimmunologic Recipient and Donor Factors as Determinants of Graft Survival

Bethany J. Foster and Indra Rani Gupta
See related article on page 669.

Original Articles

Chronic Kidney Disease

568 Beliefs and Attitudes to Bowel Cancer Screening in Patients with CKD: A Semistructured Interview Study

Laura J. James, Germaine Wong, Jonathan C. Craig, Angela Ju, Narelle Williams, Wai H. Lim, Nicholas Cross, and Allison Tong

577 The 3-Year Incidence of Gout in Elderly Patients with CKD

Vivian S. Tan, Amit X. Garg, Eric McArthur, Ngan N. Lam, Manish M. Sood, and Kyla L. Naylor

Clinical Nephrology

585 Glomerular Density and Volume in Renal Biopsy Specimens of Children with Proteinuria Relative to Preterm Birth and Gestational Age

Kentaro Koike, Yohei Ikezumi, Nobuo Tsuboi, Go Kanzaki, Kotaro Haruhara, Yusuke Okabayashi, Takaya Sasaki, Makoto Ogura, Akihiko Saitoh, and Takashi Yokoo
See related editorial on page 553.

Epidemiology and Outcomes

591 Association of Serum Triglyceride to HDL Cholesterol Ratio with All-Cause and Cardiovascular Mortality in Incident Hemodialysis Patients

Tae Ik Chang, Elani Streja, Melissa Soohoo, Tae Woo Kim, Connie M. Rhee, Csaba P. Kovesdy, Moti L. Kashyap, Nosratola D. Vaziri, Kamyar Kalantar-Zadeh, and Hamid Moradi

603 Association between Monocyte Count and Risk of Incident CKD and Progression to ESRD

Benjamin Bowe, Yan Xie, Hong Xian, Tingting Li, and Ziyad Al-Aly

Epidemiology and Outcomes (Continued)

- 614** **Temporal and Demographic Trends in Glomerular Disease Epidemiology in the Southeastern United States, 1986–2015**

Michelle M. O'Shaughnessy, Susan L. Hogan, Caroline J. Poulton, Ronald J. Falk, Harsharan K. Singh, Volker Nickeleit, and J. Charles Jennette
See related editorial on page 556.

- 624** **Association of TNF Receptor 2 and CRP with GFR Decline in the General Nondiabetic Population**

Jørgen Schei, Vidar Tor Nyborg Stefansson, Bjørn Odvar Eriksen, Trond Geir Jenssen, Marit Dahl Solbu, Tom Wilsgaard, and Toralf Melsom

Geriatric Nephrology

- 635** **Older Patients' Perspectives on Managing Complexity in CKD Self-Management**

C. Barrett Bowling, Ann E. Vandenberg, Lawrence S. Phillips, William M. McClellan, Theodore M. Johnson II, and Katharina V. Echt
See related editorial on page 559.

Mineral Metabolism/Bone Disease

- 644** **Spine Trabecular Bone Score as an Indicator of Bone Microarchitecture at the Peripheral Skeleton in Kidney Transplant Recipients**

Matthew Luckman, Didier Hans, Natalia Cortez, Kyle K. Nishiyama, Sanchita Agarawal, Chengchen Zhang, Lucas Nikkel, Sapna Iyer, Maria Fusaro, Edward X. Guo, Donald J. McMahon, Elizabeth Shane, and Thomas L. Nickolas
See related editorial on page 562.

Renal Transplantation

- 653** **Association of Serum Phosphorus Concentration with Mortality and Graft Failure among Kidney Transplant Recipients**

Hee Jung Jeon, Yong Chul Kim, Seokwoo Park, Clara Tammy Kim, Jongwon Ha, Duck Jong Han, Jieun Oh, Chun Soo Lim, In Mok Jung, Curie Ahn, Yon Su Kim, Jung Pyo Lee, and Young Hoon Kim

- 663** **A Case-Based Analysis of Whether Living Related Donors Listed for Transplant Share ESRD Causes with Their Recipients**

Arthur J. Matas, Rebecca E. Hays, and Hassan N. Ibrahim

- 669** **Donor-Recipient Weight and Sex Mismatch and the Risk of Graft Loss in Renal Transplantation**

Amanda J. Miller, Bryce A. Kiberd, Ian P. Alwayn, Ayo Odutayo, and Karthik K. Tennankore
See related editorial on page 565.

Glomerular Diseases: Update for the Clinician

- 677** **IgA Nephropathy**

Jennifer C. Rodrigues, Mark Haas, and Heather N. Reich

Evidence-Based Nephrology

- 687** **Symptom Management of the Patient with CKD: The Role of Dialysis**

Valerie Jorge Cabrera, Joni Hansson, Alan S. Kliger, and Fredric O. Finkelstein

Commentary

- 694** **Commentary on Symptom Management of the Patient with CKD: The Role of Dialysis**

Bryan Kestenbaum and Stephen L. Seliger

Kidney Case Conference: Nephrology Quiz and Questionnaire

- 696** **Hypocalcemia in a Patient with Cancer**

Mitchell H. Rosner

700 SGLT2 Inhibition in the Diabetic Kidney—From Mechanisms to Clinical Outcome

Erik J.M. van Bommel, Marcel H.A. Muskiet, Lennart Tonneijck, Mark H.H. Kramer, Max Nieuwdorp, and Daniel H. van Raalte

On the Cover

What is the diagnosis? 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*)