Patient Voice

483 Patient Perspective of Smartphone-Based Apps for CKD Self-Care
Dale Rogers
See related editorial and article on pages 491 and 523, respectively.

Editorials

485 Complex Decision Making about Dialysis in Critically Ill Older Adults with AKI
Catherine R. Butler and Ann M. O’Hare
See related article on page 496.

488 Prediction Models for AKI: Will They Result in Improved Outcomes for AKI?
Yuenting Diana Kwong and Kathleen D. Liu
See related article on page 506.

491 Got CKD? There’s an App for That!
Joel M. Topf and Swapnil Hiremath
See related Patient Voice and article on pages 483 and 523, respectively.

493 Frailty and Cognitive Deficits Limit Access to Kidney Transplantation: Unfair or Unavoidable?
Meera N. Harhay and Peter P. Reese
See related articles on pages 567 and 576, respectively.

Original Articles

Acute Kidney Injury and ICU Nephrology

496 Selection and Receipt of Kidney Replacement in Critically Ill Older Patients with AKI
Sean M. Bagshaw, Neill K.J. Adhikari, Karen E.A. Burns, Jan O. Friedrich, Josée Bouchard, Francois Lamontagne, Lauralyn A. McIntrye, Jean-François Caillier, Peter Dodek, Henry T. Stelfox, Margaret Herridge, Stephen Lapinsky, John Muscedere, James Barton, Donald Griesdale, Mark Soth, Althea Ambosta, Gerald Lebovic, and Ron Wald on behalf of the Canadian Critical Care Trials Group
See related editorial on page 485.

506 A Prediction Model for Severe AKI in Critically Ill Adults That Incorporates Clinical and Biomarker Data
See related editorial on page 488.

Chronic Kidney Disease

515 Secondhand Smoke and CKD
Jong Hyun Jhee, Young Su Joo, Youn Kyung Kee, Su-Young Jung, Seohyun Park, Chang-Yun Yoon, Seung Hyeok Han, Tae-Hyun Yoo, Shin-Wook Kang, and Jung Tak Park

523 Patients’ and Nephrologists’ Evaluation of Patient-Facing Smartphone Apps for CKD
Karandeep Singh, Clarissa J. Diamantidis, Shreyas Ramani, Nrupen A. Bhavsar, Peter Mara, Julia Warner, Jorge Rodriguez, Tianshi Wang, and Julie Wright-Nunes
See related Patient Voice and editorial on pages 483 and 491, respectively.
Original Articles (Continued)

530 Estimated Glomerular Filtration Rate and the Risk of Cancer
Hong Xu, Kunihiro Matsushita, Guobin Su, Marco Trevisan, Johan Ärnlöv, Peter Barany, Bengt Lindholm, Carl-Gustaf Elinder, Mats Lambe, and Juan-Jesus Carrero

Clinical Nephrology

540 Dynamics of Organic Anion Transporter-Mediated Tubular Secretion during Postnatal Human Kidney Development and Maturation
Jeremiah D. Momper, Jin Yang, Mary Gockenbach, Florin Vaida, and Sanjay K. Nigam

Diabetes and the Kidney

549 Rates of Cardiac Rhythm Abnormalities in Patients with CKD and Diabetes
Nazem Akoum, Leila R. Zelnick, Ian H. de Boer, Irl B. Hirsch, Dace Trence, Connor Henry, Nicole Robinson, and Nisha Bansal

Glomerular and Tubulointerstitial Diseases

557 Etiology and Outcomes of Thrombotic Microangiopathies
Guillaume Bayer, Florent von Tokarski, Benjamin Thoreau, Adeline Bauvois, Christelle Barbet, Sylvie Cloarec, Elodie Mérieau, Sébastien Lachot, Denis Garot, Louis Bernard, Emmanuel Gyan, Franck Perrotin, Claire Pouplard, François Maillot, Philippe Gatault, Bénédicte Sautenet, Emmanuel Rusch, Matthias Buchler, Cécile Vigneau, Fadi Fakhouri, and Jean-Michel Halimi

Transplantation

567 Subclinical Cognitive Impairment and Listing for Kidney Transplantation
See related editorial and article on pages 493 and 576, respectively.

576 Frailty and Access to Kidney Transplantation
See related editorial and article on pages 493 and 567, respectively.

Research Letter

583 Usability Testing of a Sick-Day Protocol in CKD
Rebecca M. Doerfler, Clarissa J. Diamantidis, Lee-Ann Wagner, Beth M. Scism, Monifa Vaughn-Cooke, Wanda J. Fink, Thomas Blakeman, and Jeffrey C. Fink

Erratum

586 Correction

Nephropharmacology for the Clinician

587 Estimation of Kidney Function in Oncology: Implications for Anticancer Drug Selection and Dosing
Morgan A. Casal, Thomas D. Nolin, and Jan H. Beumer

Evidence-Based Nephrology

597 Risks of Living Kidney Donation: Current State of Knowledge on Outcomes Important to Donors
Krista L. Lentine, Ngan N. Lam, and Dorry L. Segev
See related Commentary on page 609.
Commentary

609 Commentary on Risks of Living Kidney Donation: Current State of Knowledge on Core Outcomes Important to Donors
Bryan R. Kestenbaum and Stephen L. Seliger
See related article on page 597.

Kidney Case Conference: How I Treat

611 Management of the Hemodialysis Patient with Catheter-Related Bloodstream Infection
Crystal A. Farrington and Michael Allon

614 Kidney Transplantation in a HIV-Positive Recipient
Deirdre Sawinski and Jayme E. Locke

Perspectives

617 Stopping RAS Inhibitors to Minimize AKI: More Harm than Good?
Charles Tomson and Laurie A. Tomlinson

620 Kidney Xenotransplantation: Steps toward Clinical Application
Brian I. Shaw and Allan D. Kirk

623 From Patient-Centered to Person-Centered Care for Kidney Diseases
Rachael L. Morton and Marcus Sellars

Features

626 Recommendations for the Care of Patients Receiving Conservative Kidney Management: Focus on Management of CKD and Symptoms
Sara N. Davison, Beth Tupala, Betty Ann Wasylynuk, Valerie Siu, Aynharan Sinmarajah, and Jean Triscott

635 A Conceptual Framework of Palliative Care across the Continuum of Advanced Kidney Disease
Daniel Y. Lam, Jennifer S. Scherer, Mark Brown, Vanessa Grubbs, and Jane O. Schell

On the Cover

What’s the diagnosis?
Details: This patient with progressive CKD had a past medical history of seizures and episodes of tetany and was taking carbamazepine, lamotrigine and calcium and vitamin D supplements. She had an eGFR of 33 mL/min/1.73m2, hypomagnesaemia, hypocalcaemia and hypercalciuria with a mildly elevated PTH. Vitamin D levels were sufficient. Renal imaging demonstrated nephrocalcinosis and a renal biopsy demonstrated nephrocalcinosis. The unifying diagnosis is autosomal dominant hypocalcaemia with progressive CKD secondary to nephrocalcinosis. Genetic analysis confirmed a heterozygous c.354C>A, p.(Asn118Lys) missense mutation in CASR, encoding the Calcium-sensing receptor (CaSR).
Description: The three images show:
a) CT brain scan demonstrating calcium deposition in a symmetrical pattern at the junction of the grey and white matter
b) CT of kidneys showing bilateral nephrocalcinosis
c) Renal biopsy stained with Von Kossa demonstrating nephrocalcinosis
Key teaching points: A family history revealed the patient’s mother and sibling were also affected, consistent with autosomal dominant inheritance. The PTH is usually low as activating mutations in CaSR lower the set-point of calcium-responsive parathyroid hormone release, allowing a low serum calcium to be perceived as normal. In this case PTH was mildly elevated in the context of longstanding CKD. Overzealous attempts at correcting hypocalcaemia in patients with autosomal dominant hypocalcaemia result in hypercalciuria and nephrocalcinosis. Brain calcification (typically basal ganglia calcification) is a frequent finding, the mechanism is not known but is likely to be secondary to the CASR mutation itself. Symptomatic and judicious correction of hypocalcaemia is advised.
(Images and text provided by Shahid Abdullah1, Shalabh Srivastava2, Simren Raktra2, Philip Haslam1, and John A. Sayer1,3; 1The Newcastle Upon Tyne Hospitals NHS Foundation Trust, 2City Hospitals Sunderland NHS Foundation Trust; and 3Newcastle University, Institute of Genetic Medicine, Central Parkway, Newcastle NE1 3BZ)