Patient Voice

   Kevin John Fowler
   See related article on page 282.

Editorials

195 The Urine Anion Gap in Context
   Daniel Batlle, Sheeba Habeeb Ba Aqeel, and Alonso Marquez
   See related article on page 205.

198 Why Nomenclature for Pharmacist-Led Interventions Matters: Conquering the State of Confusion
   Amy Barton Pai
   See related article on page 231.

201 Persistent Hematuria in ANCA Vasculitis: Ominous or Innocuous?
   Shannon L. Mahoney and Patrick H. Nachman
   See related article on page 251.

203 Employment among Patients on Dialysis: An Unfulfilled Promise
   Ayman Hallab and Jay B. Wish
   See related article on page 265.

Original Articles

Acid/Base and Electrolyte Disorders

205 Urine Anion Gap to Predict Urine Ammonium and Related Outcomes in Kidney Disease
   Kalani L. Raphael, Sarah Gilligan, and Joachim H. Ix
   See related editorial on page 195.

Chronic Kidney Disease

213 Nondepressive Psychosocial Factors and CKD Outcomes in Black Americans
   Joseph Lunyera, Clemontina A. Davenport, Nrupen A. Bhavsar, Mario Sims, Julia Scialla, Jane Pendergast, Rasheeda Hall, Crystal C. Tyson, Jennifer St. Clair Russell, Wei Wang, Adolfo Correa, L. Ebony Boulware, and Clarissa J. Diamantidis

223 Association between Urine Ammonium and Urine TGF-β1 in CKD
   Kalani L. Raphael, Sarah Gilligan, Thomas H. Hostetter, Tom Greene, and Srinivasan Beddhu

231 Medication Therapy Management after Hospitalization in CKD: A Randomized Clinical Trial
   See related editorial on page 198.
Genetics

242 Prevalence of Novel MAGED2 Mutations in Antenatal Bartter Syndrome
Anne Legrand, Cyrielle Treard, Isabelle Roncelin, Sophie Dreux, Aurélia Bertholet-Thomas, Françoise Broux, Daniele Bruno, Stéphane Decramer, Georges Deschenes, Djamal Djeddi, Vincent Guigonis, Nadine Jay, Tackwa Khalifeh, Brigitte Llanas, Denis Morin, Gilles Morin, François Nobili, Christine Pietrement, Amélie Ryckewaert, Rémi Salomon, Isabelle Vrillon, Anne Blanchard, and Rosa Vargas-Poussou

Glomerular and Tubulointerstitial Diseases

251 The Utility of Urinalysis in Determining the Risk of Renal Relapse in ANCA-Associated Vasculitis
Rennie L. Rhee, John C. Davis, Linna Ding, Fernando C. Fervenza, Gary S. Hoffman, Cees G.M. Kallenberg, Carol A. Langford, W. Joseph McCune, Paul A. Monach, Philip Seo, Robert Spiera, E. William St. Clair, Ulrich Specks, John H. Stone, and Peter A. Merkel
See related editorial on page 201.

258 Mesangial C4d Deposits in Early IgA Nephropathy
Alfons Segarra, Katheryne Romero, Irene Agraz, Natalia Ramos, Alvaro Madrid, Clara Carnicer, Elias Jatem, Ramón Vilalta, Luis Enrique Lara, Elena Ostos, Naiara Valtierra, Juliana Jaramillo, Karla V. Arredondo, Gema Ariceta, and Cristina Martinez

Maintenance Dialysis

265 Employment among Patients Starting Dialysis in the United States
Kevin F. Erickson, Bo Zhao, Vivian Ho, and Wolfgang C. Winkelmayer
See related editorial on page 203.

274 Anion Gap as a Determinant of Ionized Fraction of Divalent Cations in Hemodialysis Patients
Yusuke Sakaguchi, Takayuki Hamano, Keiichi Kubota, Tatsufumi Oka, Satoshi Yamaguchi, Ayumi Matsumoto, Nobuhiro Hashimoto, Daisuke Mori, Yasue Obi, Isao Matsui, and Yoshitaka Isaka

Transplantation

282 Standardized Transplantation Referral Ratio to Assess Performance of Transplant Referral among Dialysis Facilities
Sudeshna Paul, Laura C. Plantinga, Stephen O. Pastan, Jennifer C. Gander, Sumit Mohan, and Rachel E. Patzer
See related Patient Voice on page 193.

290 A Markov Analysis of Screening for Late-Onset Cytomegalovirus Disease in Cytomegalovirus High-Risk Kidney Transplant Recipients
Chethan M. Puttarajappa, Sundaram Hariharan, and Kenneth J. Smith

Erratum

299 Correction

Glomerular Diseases: Update for the Clinician

300 Thrombotic Microangiopathy and the Kidney
Vicky Brocklebank, Katrina M. Wood, and David Kavanagh

Perspectives

318 Are SGLT2 Inhibitors Ready for Prime Time for CKD?
Roberto Pecoits-Filho and Vlado Perkovic
See related article on page 321.

321 Effects of Diabetes Medications Targeting the Incretin System on the Kidney
Richard J. MacIsaac and Merlin C. Thomas
See related article on page 318.
Perspectives (Continued)

324  Nephrology at a Crossroads
Ian H. de Boer
See related articles on pages 325, 328 and 331.

325  Addressing Physician Burnout: Nephrologists, How Safe Are We?
Amy W. Williams
See related articles on pages 324, 328 and 331.

328  Burnout in Nephrology: Implications on Recruitment and the Workforce
John K. Roberts
See related articles on pages 324, 325 and 331.

331  Transforming Nephrology
Mitchell H. Rosner and Jeffrey S. Berns
See related articles on pages 324, 325 and 331.

Kidney Case Conferences

How I Treat

335  Diabetic Kidney Disease
Lili Tong and Sharon G. Adler

Attending Rounds

339  Sepsis-Associated AKI
J.R. Prowle

Feature

343  Re-Evaluation of the Normal Range of Serum Total CO₂ Concentration
Jeffrey A. Kraut and Nicolaos E. Madias

Review

348  Left Ventricular Assist Devices and the Kidney

On the Cover

What's the diagnosis?

A 59 year-old woman with Hepatitis C cirrhosis presented with worsening ascites and acute kidney injury with serum creatinine 3.5 mg/dL (baseline 0.8 mg/dL). Urinalysis was positive for hemoglobin and protein, along with 35 red blood cells and 15 white blood cells per high power field. Urine protein/creatinine ratio was 1.7. Urine sediment showed red blood cell casts. C3 and C4 levels were 22 mg/dL and 3 mg/dL respectively. Rheumatoid factor and serum cryoglobulin were weakly positive. Hepatitis C viral load was notably elevated (>10,000,000 IU/mL). All other serologies were negative. Kidney biopsy demonstrated IgG, IgM, and C3 deposition on immunofluorescence microscopy and signs of membranoproliferative glomerulonephritis (MPGN) on light and electron microscopy. The patient was diagnosed with immune complex-mediated MPGN associated with Hepatitis C. The patient was started on ledipasvir/sofosbuvir daily with plan to continue the course for 12 weeks. However, the patient died from complications of gastrointestinal bleeding 1 week after initiation of treatment.

Urine sediment showed red blood cell casts (Figure 1). Light microscopy showed increased mesangial and endocapillary cellularity with segmental thickening in the capillary walls (Figure 2). There was diffuse effacement of the foot processes involving greater than 75% of the capillary surface with re-duplication of the glomerular basement membrane (tram-tracking) and sub-endothelial dense deposits on electron microscopy (Figure 3).

Hepatitis C is a common cause of immune complex-mediated MPGN. Patients usually present with hematuria, proteinuria and active urine sediment. Hypocomplementemia is a common finding. The diagnosis is confirmed by electron microscopy and immunofluorescence.

(Images and text provided by Mohamad Hanouneh, MD, Steven Menez, MD, and Duvaru Geetha, MBBS, MD, Johns Hopkins University, Department of Medicine, Division of Nephrology, Baltimore, Maryland)