

# CJASN

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## Patient Voice

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**193 Accountability of Dialysis Facilities in Transplant Referral: CMS Needs to Collect National Data on Dialysis Facility Kidney Transplant Referrals**

Kevin John Fowler

See related article on page 282.

## Editorials

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**195 The Urine Anion Gap in Context**

Daniel Battle, 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, Clementina 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- $\beta$ 1 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**

Katherine R. Tuttle, Radica Z. Alicic, Robert A. Short, Joshua J. Neumiller, Brian J. Gates, Kenn B. Daratha, Celestina Barbosa-Leiker, Sterling M. McPherson, Naomi S. Chaytor, Brad P. Dieter, Stephen M. Setter, and Cynthia F. Corbett

See related editorial on page 198.

### Genetics

#### 242 Prevalence of Novel *MAGED2* Mutations in Antenatal Bartter Syndrome

Anne Legrand, Cyrielle Tread, Isabelle Roncelin, Sophie Dreux, Aurélie Bertholet-Thomas, Françoise Broux, Daniele Bruno, Stéphane Decramer, Georges Deschenes, Djamel Djeddi, Vincent Guignonis, 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. Winkelmayr

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

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#### 299 Correction

## Glomerular Diseases: Update for the Clinician

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#### 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. Maclsaac and Merlin C. Thomas

See related article on page 318.

### 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 328.

## Kidney Case Conferences

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### How I Treat

#### 335 Diabetic Kidney Disease

Lili Tong and Sharon G. Adler

### Attending Rounds

#### 339 Sepsis-Associated AKI

J.R. Prowle

## Feature

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#### 343 Re-Evaluation of the Normal Range of Serum Total CO<sub>2</sub> Concentration

Jeffrey A. Kraut and Nicolaos E. Madias

## Review

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#### 348 Left Ventricular Assist Devices and the Kidney

Daniel W. Ross, Gerin R. Stevens, Rimda Wanchoo, David T. Majure, Sandeep Jauhar, Harold A. Fernandez, Massini Merzkani, and Kenar D. Jhaveri

### 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 Duvuru Geetha, MBBS, MD, Johns Hopkins University, Department of Medicine, Division of Nephrology, Baltimore, Maryland)