

# CJASN

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## Patient Voice

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### 1539 Fatigue While Undergoing Long-Term Hemodialysis

*Henning Sondergaard*

See related editorial and article on pages 1546 and 1614, respectively.

## Editorials

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### 1541 How Safe Is a Native Kidney Biopsy?

*Abbal Koirala and J. Ashley Jefferson*

See related articles on pages 1587 and 1595, respectively.

### 1543 Not All Sepsis-Associated Acute Kidney Injury Is the Same: There May Be an App for That

*Samantha Gunning and Jay L. Koyner*

See related article on page 1557.

### 1546 Moving the Science of Patient-Reported Outcome Measures Forward: Measuring Fatigue in Hemodialysis Patients

*Sarah J. Ramer and Jennifer S. Scherer*

See related Patient Voice and article on pages 1539 and 1614, respectively.

## Original Articles

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### Acute Kidney Injury and ICU Nephrology

#### 1549 Prevalence of Kidney Injury and Associations with Critical Illness and Death in Patients with COVID-19

*Xizi Zheng, Hongyu Yang, Xiaolong Li, Haichao Li, Lingyi Xu, Qi Yu, Yaping Dong, Youlu Zhao, Jinwei Wang, Wanyin Hou, Xin Zhang, Yang Li, Feng Hu, Hong Gao, Jicheng Lv, and Li Yang*

#### 1557 Utilization of Deep Learning for Subphenotype Identification in Sepsis-Associated Acute Kidney Injury

*Kumardeep Chaudhary, Akhil Vaid, Áine Duffy, Ishan Paranjpe, Suraj Jaladanki, Manish Paranjpe, Kipp Johnson, Avantee Gokhale, Pattharawin Pattharanitima, Kinsuk Chauhan, Ross O'Hagan, Tielman Van Vleck, Steven G. Coca, Richard Cooper, Benjamin Glicksberg, Erwin P. Bottinger, Lili Chan, and Girish N. Nadkarni*

See related editorial on page 1543.

### Chronic Kidney Disease

#### 1566 Combination Treatment with Sodium Nitrite and Isoquercetin on Endothelial Dysfunction among Patients with CKD: A Randomized Phase 2 Pilot Trial

*Jing Chen, L. Lee Hamm, Joshua D. Bundy, Damodar R. Kumbala, Shirisha Bodana, Sehgal Chandra, Chung-Shiuan Chen, Charlton C. Starcke, Yajun Guo, Caroline M. Schaefer, Eva Lustigova, Erin Mahone, Aarti M. Vadalia, Terra Livingston, Katherine Obst, Jesus Hernandez, Syed Rizwan Bokhari, Myra Kleinpeter, Arnold B. Alper, Ivo Lukitsch, Hua He, David C. Nieman, and Jiang He*

#### 1576 Effect of Urate-Lowering Therapy on Cardiovascular and Kidney Outcomes: A Systematic Review and Meta-Analysis

*Qi Chen, Zi Wang, Jingwei Zhou, Zhenjie Chen, Yan Li, Shichao Li, Hukang Zhao, Sunil V. Badve, and Jicheng Lv*

### Clinical Nephrology

#### **1587 Major Bleeding and Risk of Death after Percutaneous Native Kidney Biopsies: A French Nationwide Cohort Study**

Jean-Michel Halimi, Philippe Gatault, H el ene Longuet, Christelle Barbet, Arnaud Bisson, B enedicte Sautenet, Julien Herbert, Matthias Buchler, Leslie Grammatico-Guillon, and Laurent Fauchier  
See related editorial and article on pages 1541 and 1595, respectively.

#### **1595 Systematic Review and Meta-Analysis of Native Kidney Biopsy Complications**

Emilio D. Poggio, Robyn L. McClelland, Kristina N. Blank, Spencer Hansen, Shweta Bansal, Andrew S. Bomback, Pietro A. Canetta, Pascale Khairallah, Krzysztof Kiryluk, Stewart H. Lecker, Gearoid M. McMahon, Paul M. Palevsky, Samir Parikh, Sylvia E. Rosas, Katherine Tuttle, Miguel A. Vazquez, Anitha Vijayan, and Brad H. Rovin, for the Kidney Precision Medicine Project  
See related editorial and article on pages 1541 and 1587, respectively.

### Maintenance Dialysis

#### **1603 Trends in Mineral Metabolism Treatment Strategies in Patients Receiving Hemodialysis in the United States**

Rasheeda Hall, Alyssa Platt, Jonathan Wilson, Patti L. Ephraim, Angelina S. Hwang, Angel Chen, Daniel E. Weiner, L. Ebony Boulware, Jane Pendergast, and Julia J. Scialla, on behalf of The Comparative Effectiveness Studies in Dialysis Patients Group

#### **1614 Validation of a Core Patient-Reported Outcome Measure for Fatigue in Patients Receiving Hemodialysis: The SONG-HD Fatigue Instrument**

Angela Ju, Armando Teixeira-Pinto, Allison Tong, Alice C. Smith, Mark Unruh, Sara N. Davison, Juan Dapuerto, Mary Amanda Dew, Richard Fluck, Michael J. Germain, Sarbjit V. Jassal, Gregorio T. Obrador, Donal O'Donoghue, Andrea K. Viecelli, Giovanni Strippoli, Marinella Ruospo, Delia Timofte, Ankit Sharma, Eric Au, Martin Howell, Daniel S.J. Costa, Samaya Anumudu, Jonathan C. Craig, and Claudia Rutherford  
See related Patient Voice and editorial on pages 1539 and 1546, respectively.

#### **1622 Trends in Use and In-Hospital Outcomes of Subcutaneous Implantable Cardioverter Defibrillators in Patients Undergoing Long-Term Dialysis**

Patrick H. Pun, Craig S. Parzynski, Daniel J. Friedman, Gillian Sanders, Jephtha P. Curtis, and Sana M. Al-Khatib

#### **1631 Association of VA Payment Reform for Dialysis with Spending, Access to Care, and Outcomes for Veterans with ESKD**

Virginia Wang, Shailender Swaminathan, Emily A. Corneau, Matthew L. Maciejewski, Amal N. Trivedi, Ann M. O'Hare, and Vincent Mor

## Research Letter

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#### **1640 QT Interval in Adult with Chronic Hypokalemia due to Gitelman Syndrome: Not so Frequently Prolonged**

Pierre-Yves Courand, Pedro Marques, Rosa Vargas-Poussou, Michel Azizi, Anne Blanchard, and the GITAB study investigators

## Genomics of Kidney Disease

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#### **1643 Genome-Wide Association Studies of CKD and Related Traits**

Adrienne Tin and Anna K ottgen

## Kidney Case Conference: Nephrology Quiz & Questionnaire

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#### **1657 Pain Management in a Patient with Kidney Failure**

Louise Moist

## Perspectives

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### 1660 Revisiting Filtration Fraction as an Index of the Risk of Hemofilter Clotting in Continuous Venovenous Hemofiltration

*Parta Hatamizadeh, Ashita Tolwani, and Paul Palevsky*

### 1663 Delivering High-Quality Peritoneal Dialysis: What Really Matters?

*Isaac Teitelbaum*

### 1666 The Curious Story of Cerebral Salt Wasting: Fact or Fiction?

*Joseph G. Verbalis*

## Feature

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### 1669 Health Policy for Dialysis Care in Canada and the United States

*Marcello Tonelli, Raymond Vanholder, and Jonathan Himmelfarb*

## Review

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### 1678 Decision Algorithm for Prescribing SGLT2 Inhibitors and GLP-1 Receptor Agonists for Diabetic Kidney Disease

*Jiahua Li, Oltjon Albajrami, Min Zhuo, Chelsea E. Hawley, and Julie M. Paik*

### On the Cover

#### *What is the diagnosis?*

We report on a 46-year-old Japanese woman admitted for kidney failure. The patient was 164 cm tall and weighed 120 kg; her BMI was 44.6 kg/m<sup>2</sup>. At admission, blood pressure was 186/86 mm Hg; creatinine, 5.7 mg/dl; serum glucose, 81 mg/dl; HbA1c, 5.1%; and urinary protein excretion, 4.1 g/d. She had neither history of smoking nor diabetic retinopathy, and had been severely obese with a weight of more than 110 kg since the age of 20.

#### **Image Description:**

Light microscopy of a kidney biopsy specimen showed multiple nodules (arrow) on the peripheral capillaries of the glomeruli (left image), immunofluorescence showed mild linear staining for IgG, and electron microscopy showed a marked increase (small arrow) in the mesangial matrix and a thickening (large arrow) of the glomerular basement membrane to 800 to 950 nm (right image).

#### **Teaching Points:**

If this patient had a history of diabetes, kidney biopsy would be diagnosed as nodular diabetic nephropathy. However, in the absence of diabetes, the diagnosis is idiopathic nodular glomerulosclerosis. Idiopathic nodular glomerulosclerosis resembles nodular diabetic nephropathy and has been reported to occur in nondiabetic smokers. This case indicates that long-standing severe obesity may contribute to idiopathic nodular glomerulosclerosis via hyperfiltration, similar to diabetic nephropathy, even in nondiabetic nonsmokers.

We thank Yamaguchi Y. and Ohashi K. for valuable discussion on the diagnostic and therapeutic strategy.

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