

# JASN<sup>®</sup>

JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY

November 2021 • Vol. 32 • No. 11

## This Month's Highlights

### OBITUARY

- 2685 Tribute to Barbara T. Murphy**  
Susan E. Quaggin and John S. Gill

### UP FRONT MATTERS

#### Editorials

- 2687 Beyond Transcription Factors: Remodeling Chromatin in the Metanephric Mesenchyme**  
Samir S. El-Dahr  
• See related article by Li et al.  
(pp. 2815–2833)

- 2689 Predictive Enrichment in Kidney RCTs: Is Albuminuria the Answer?**  
Ayodele Odutayo and David Z.I. Cherney  
• See related article by Heerspink et al.  
(pp. 2900–2911)

- 2691 ★Understanding Risks and Our Responsibility to Living Donors**  
John S. Gill, Jesse Schold, and Bruce Kaplan  
• See related article by Ibrahim et al.  
(pp. 2933–2947)

#### Perspectives

- 2694 The Art and Science of Medicine ... and Standardized Test Scores**  
Susan E. Quaggin and Luisa Safar-Boueri  
• See related special article by Berns et al. (pp. 2714–2723)

#### Reviews

- 2697 Podocyte Aging: Why and How Getting Old Matters**  
Stuart J. Shankland, Yuliang Wang, Andrey S. Shaw, Joshua C. Vaughan, Jeffrey W. Pippin, and Oliver Wessely

#### Special Articles

- 2714 Analysis of Performance Trends from 2010–2019 on the American Board of Internal Medicine Nephrology Certifying Exam**

Jeffrey S. Berns, Weifeng Weng, Bernard G. Jaar, Rebecca S. Lipner, Bradley G. Grossman, and Furman S. McDonald

• See related perspective by Quaggin and Safar-Boueri (pp. 2694–2696)

### RESEARCH LETTERS

- 2725 Impaired Humoral but Substantial Cellular Immune Response to Variants of Concern B1.1.7 and B.1.351 in Hemodialysis Patients after Vaccination with BNT162b2**  
Constantin J. Thieme, Arturo Blazquez-Navarro, Lema Safi, Sviatlana Kaliszczuk, Krystallenia Paniskaki, Isabel E. Neumann, Kita Schmidt, Mara Stockhausen, Jan Hörstrup, Ocan Cinkilic, Linus Flitsch-Kiefner, Toni L. Meister, Corinna Marheinecke, Stephanie Pfaender, Eike Steinmann, Felix S. Seibert, Ulrik Stervbo, Timm H. Westhoff, Toralf Roch, and Nina Babel

- 2728 Testing of Worn Face Masks for Timely Diagnosis of SARS-CoV-2 in Hemodialysis Patients**  
Xiaoling Wang, Nadja Grobe, Zahin Haq, Ohnmar Thwin, Lemuel Rivera Fuentes, Dugan Maddux, and Peter Kotanko

- 2731 Large Between-Patient Variability in eGFR Decline before Clinical Trial Enrollment and Impact on Atrasentan's Efficacy: A Post Hoc Analysis from the SONAR Trial**  
Simke W. Waijer, Sieta T. de Vries, Robert Busch, Di Xie, Ron T. Gansevoort, Fan Fan Hou, Jose L. Górriz, Gozewijn D. Laverman, Luca De Nicola, Julio Pascual, Michele Provenzano, Pablo E. Pergola, Sydney C.W. Tang, Christoph Wanner, Philippe Zaoui, Hans-Henrik Parving, Dick de Zeeuw, and Hiddo J.L. Heerspink

### RAPID COMMUNICATIONS

- 2735 Immunogenicity of SARS-CoV-2 Vaccine in Dialysis**  
Eduardo Lacson, Jr., Christos P. Argyropoulos, Harold J. Manley, Gideon Aweh, Andrew I. Chin, Loay H. Salman, Caroline M. Hsu, Doug S. Johnson, and Daniel E. Weiner

## BASIC RESEARCH

- 2743 **Donor-Specific Antibody Is Associated with Increased Expression of Rejection Transcripts in Renal Transplant Biopsies Classified as No Rejection**  
Katelynn S. Madill-Thomsen, Georg A. Böhmig, Jonathan Bromberg, Gunilla Einecke, Farsad Eskandary, Gaurav Gupta, Luis G. Hidalgo, Marek Myslak, Ondrej Viklicky, Agnieszka Perkowska-Ptasinska, Philip F. Halloran, and the INTERCOMEX Investigators

- 2759 **Ferroptosis Promotes Cyst Growth in Autosomal Dominant Polycystic Kidney Disease Mouse Models**  
Xiaoqin Zhang, Linda Xiaoyan Li, Hao Ding, Vicente E. Torres, Chen Yu, and Xiaogang Li

- 2777 **Glomerular Endothelial Cell-Derived microRNA-192 Regulates Nephronectin Expression in Idiopathic Membranous Glomerulonephritis**  
Janina Müller-Deile, Nina Sopel, Alexandra Ohs, Victoria Rose, Marwin Gröner, Christoph Wrede, Jan Hegermann, Christoph Daniel, Kerstin Amann, Gunther Zahner, and Mario Schiffer

- 2795 **★PodoSighter: A Cloud-Based Tool for Label-Free Podocyte Detection in Kidney Whole-Slide Images**  
Darshana Govind, Jan U. Becker, Jeffrey Miecznikowski, Avi Z. Rosenberg, Julien Dang, Pierre Louis Tharaux, Rabi Yacoub, Friedrich Thaiss, Peter F. Hoyer, David Manthey, Brendon Lutnick, Amber M. Worral, Imtiaz Mohammad, Vighnesh Walavalkar, John E. Tomaszewski, Kuang-Yu Jen, and Pinaki Sarder

- 2815 **Chromatin Remodelers Interact with Eya1 and Six2 to Target Enhancers to Control Nephron Progenitor Cell Maintenance**  
Jun Li, Jinshu Xu, Huihui Jiang, Ting Zhang, Aarthi Ramakrishnan, Li Shen, and Pin-Xian Xu  
• See related editorial by El-Dahr (pp. 2687–2689)

- 2834 **Indoleamine 2,3-dioxygenase-1, a Novel Therapeutic Target for Post-Vascular Injury Thrombosis in CKD**  
Joshua A. Walker, Sean Richards, Stephen A. Whelan, Sung Bok Yoo, Teresa L. Russell, Nkiruka Arinze, Saran Lotfollahzadeh, Marc A. Napoleon, Mostafa Belghasem, Norman Lee, Laura M. Dember, Katya Ravid, and Vipul C. Chitalia

## CLINICAL EPIDEMIOLOGY

- 2851 **★Kidney Outcomes in Long COVID-19**  
Benjamin Bowe, Yan Xie, Evan Xu, and Ziyad Al-Aly

## CLINICAL RESEARCH

- 2863 **★Renal Histologic Analysis Provides Complementary Information to Kidney Function Measurement for Patients with Early Diabetic or Hypertensive Disease**

Ghazal Z. Quinn, Amin Abedini, Hongbo Liu, Ziyuan Ma, Andrew Cucchiara, Andrea Havasi, Jon Hill, Matthew B. Palmer, and Katalin Susztak

- 2877 **★Impaired Tubular Secretion of Organic Solutes in Advanced Chronic Kidney Disease**

Robert D. Mair, Seolhyun Lee, Natalie S. Plummer, Tammy L. Sirich, and Timothy W. Meyer

- 2885 **mTOR-Activating Mutations in RRAGD Are Causative for Kidney Tubulopathy and Cardiomyopathy**

Karl P. Schlingmann, François Jouret, Kuang Shen, Anukrati Nigam, Francisco J. Arjona, Claudia Dafinger, Pascal Houillier, Deborah P. Jones, Felix Kleinerüschkamp, Jun Oh, Nathalie Godefroid, Mehmet Eltan, Tülay Güran, Stéphane Burtey, Marie-Christine Parotte, Jens König, Alina Braun, Caro Bos, Maria Ibars Serra, Holger Rehmann, Fried J.T. Zwartkruis, Kirsten Y. Renkema, Karin Klingel, Eric Schulze-Bahr, Bernhard Schermer, Carsten Bergmann, Janine Altmüller, Holger Thiele, Bodo B. Beck, Karin Dahan, David Sabatini, Max C. Liebau, Rosa Vargas-Poussou, Nine V.A.M. Knoers, Martin Konrad, and Jeroen H.F. de Baaij

- 2900 **Early Response in Albuminuria and Long-Term Kidney Protection during Treatment with an Endothelin Receptor Antagonist: A Prespecified Analysis from the SONAR Trial**

Hiddo J. L. Heerspink, Di Xie, George Bakris, Ricardo Correa-Rotter, Fan-Fan Hou, Dalane W. Kitzman, Donald Kohan, Hirofumi Makino, John J. V. McMurray, Vlado Perkovic, Peter Rossing, Hans-Henrik Parving, and Dick de Zeeuw, on behalf of the SONAR Investigators

• See related editorial by Odutayo and Cherney (pp. 2689–2691)

- 2912 **Preserved Cerebral Oxygenation with Worsening Global Myocardial Strain during Pediatric Chronic Hemodialysis**

Alexandra Idrovo, Ricardo Pignatelli, Robert Loar, Asela Nieuwsma, Jessica Geer, Catharina Solomon, Sarah Swartz, Nancy Ghanayem, Ayse Akcan-Arikan, and Poyyapakkam Srivaths

- 2920 The Clinical Application of Urine Soluble CD163 in ANCA-Associated Vasculitis**  
Sarah M. Moran, Jennifer Scott, Michael R. Clarkson, Niall Conlon, Jean Dunne, Matthew D. Griffin, Tomas P. Griffin, Elizabeth Groarke, John Holian, Conor Judge, Jason Wyse, Kirsty McLoughlin, Paul V. O'Hara, Matthias Kretzler, Mark A. Little, and the Nephrotic Syndrome Study Network (NEPTUNE)
- 2933 ★Intermediate Renal Outcomes, Kidney Failure, and Mortality in Obese Kidney Donors**  
Hassan N. Ibrahim, Dina N. Murad, Sean A. Hebert, Horacio E. Adrogue, Hana Nguyen, Duc T. Nguyen, Arthur J. Matas, and Edward A. Graviss  
• See related editorial by Gill et al. (pp. 2691–2693)
- 2948 Changes in Treatment of Patients with Incident ESKD during the Novel Coronavirus Disease 2019 Pandemic**  
James B. Wetmore, Kirsten L. Johansen, Jiannong Liu, Yi Peng, David T. Gilbertson, and Eric D. Weinhandl
- 2958 ★Longitudinal Outcomes of COVID-19-Associated Collapsing Glomerulopathy and Other Podocytopathies**  
Satoru Kudose, Dominick Santoriello, Andrew S. Bomback, Miroslav Sekulic, Ibrahim Batal, M. Barry Stokes, Iman A. Ghavami, Jung S. Kim, Maddalena Marasa, Katherine Xu, Yonatan Peleg, Jonathan Barasch, Pietro Canetta, Hila Milo Rasouly, Ali G. Gharavi, Glen S. Markowitz, and Vivette D. D'Agati
- LETTERS TO THE EDITOR**
- 2971 Heterogenous Role of IRF4 in Kidney Fibrosis**  
Zhenyu Liu and Jingbo Zhang  
• See related reply on page 2972, and original article, "Deletion of Myeloid Interferon Regulatory Factor 4 (Irf4) in Mouse Model Protects against Kidney Fibrosis after Ischemic Injury by Decreased Macrophage Recruitment and Activation," in Vol. 32, Iss. 5, on pages 1037–1052.
- 2972 Authors' Reply**  
Raymond C. Harris and Ming-Zhi Zhang  
• See related letter to the editor, "Heterogenous Role of IRF4 in Kidney Fibrosis," on pages 2971–2972, and original article, "Deletion of Myeloid Interferon Regulatory Factor 4 (Irf4) in Mouse Model Protects against Kidney Fibrosis after Ischemic Injury by Decreased Macrophage Recruitment and Activation," in Vol. 32, Iss. 5, on pages 1037–1052.
- 2972 Need for a Validation Study before Using the Two-Step Algorithm for dd-cfDNA to Screen for Acute Rejection**  
Aditi Gupta and Bruce Kaplan  
• See related reply, on pages 2973–2974, and original article, "Using both the Fraction and Quantity of Donor-Derived Cell-Free DNA to Detect Kidney Allograft Rejection," in Vol. 32, Iss. 10, on pages 2439–2441.
- 2973 Authors' Reply**  
Suphamai Bunnapradist and Hossein Tabriziani  
• See related letter to the editor, "Need for a Validation Study before Using the Two-Step Algorithm for dd-cfDNA to Screen for Acute Rejection," on pages 2972–2973, and research letter, "Using both the Fraction and Quantity of Donor-Derived Cell-Free DNA to Detect Kidney Allograft Rejection," in Vol. 32, Iss. 10, on pages 2439–2441.
- 2974 Incidence of Arteritis and Peritubular Capillaritis in ANCA-Associated Vasculitis**  
Samy Hakroush and Björn Tampe  
• See related original article, "Reappraisal of Renal Arteritis in ANCA-associated Vasculitis: Clinical Characteristics, Pathology, and Outcome," in Vol. 32, Iss. 9, on pages 2362–2374.