

This Month's Highlights

UP FRONT MATTERS

Editorials

- 1 **Vascular Endothelial Growth Factor Therapy for the Kidney: Are We There Yet?**

Alejandro R. Chade

• See related article by Huang et al. (pp. 69–77).

- 3 **Endothelial Dysfunction: The Secret Agent Driving Kidney Disease**

Richard J. Johnson and Masaomi Nangaku

• See related article by Erpenbeck et al. (pp. 120–131).

- 6 **Donor-Specific HLA Antibody IgG Subclasses Are Associated with Phenotypes of Antibody-Mediated Rejection in Sensitized Renal Allograft Recipients**

Stanley C. Jordan

• See related article by Lefaucheur et al. (pp. 293–304).

- 8 **Trimethylamine N-Oxide as a Novel Therapeutic Target in CKD**

W.H. Wilson Tang

• See related article by Stubbs et al. (pp. 305–313).

Brief Reviews

- 12 **Extracellular Vesicles in Renal Diseases: More than Novel Biomarkers?**

Uta Erdbrügger and Thu H. Le

- 27 **Necroinflammation in Kidney Disease**

Shrikant R. Mulay, Andreas Linkermann, and Hans-Joachim Anders

Special Articles

- 40 **Managing Hypertension in Patients with CKD: A Marathon, Not a SPRINT**

Glenn M. Chertow, Srinivasan Beddhu, Julia B. Lewis, Robert D. Toto, and Alfred K. Cheung

- 44 **Therapeutic Targets of Human AKI: Harmonizing Human and Animal AKI**

Mark D. Okusa, Mitchell H. Rosner, John A. Kellum, and Claudio Ronco, for the Acute Dialysis Quality Initiative XIII Workgroup

- 49 **Renal Hemodynamics in AKI: In Search of New Treatment Targets**

Martin Matejovic, Can Ince, Lakhmir S. Chawla, Roland Blantz, Bruce A. Molitoris, Mitchell H. Rosner, Mark D. Okusa, John A. Kellum, and Claudio Ronco, the ADQI XIII Work Group

- 59 **Pathophysiology of the Renal Biopsy Dense Deposit Disease Mimicking a Renal Small Vessel Vasculitis**

Lavleen Singh, Geetika Singh, Swati Bhardwaj, Aditi Sinha, Arvind Bagga, and Amit Dinda

BRIEF COMMUNICATIONS

- 63 **ADCK4-Associated Glomerulopathy Causes Adolescence-Onset FSGS**

Emine Korkmaz, Beata S. Lipska-Ziętkiewicz, Olivia Boyer, Olivier Gribouval, Cecile Fourrage, Mansoureh Tabatabaei, Sven Schnaidt, Safak Gucer, Figen Kaymaz, Mustafa Arici, Ayhan Dinckan, Sevgi Mir, Aysun K. Bayazit, Sevinc Emre, Ayse Balat, Lesley Rees, Rukshana Shroff, Carsten Bergmann, Chebl Mourani, Corinne Antignac, Fatih Ozaltin, Franz Schaefer, and the PodoNet Consortium

- 69 **Vascular Endothelial Growth Factor C for Polycystic Kidney Diseases**

Jennifer L. Huang, Adrian S. Woolf, Maria Kolatsi-Joannou, Peter Baluk, Richard N. Sandford, Dorian J.M. Peters, Donald M. McDonald, Karen L. Price, Paul J.D. Winyard, and David A. Long

• See related editorial by Chade (pp. 1–3).

BASIC RESEARCH

- 79 **Renal Production, Uptake, and Handling of Circulating α Klotho**

Ming Chang Hu, Mingjun Shi, Jianning Zhang, Tayo Addo, Han Ju Cho, Sarah L. Barker, Priya Ravikumar, Nancy Gillings, Ao Bian, Sachdev S. Sidhu, Makoto Kuro-o, and Orson W. Moe

- 92 **Hypoxia-Inducible Factor-2 α Limits Natural Killer T Cell Cytotoxicity in Renal Ischemia/Reperfusion Injury**
Jianjun Zhang, Conghui Han, Huijuan Dai, Jianquan Hou, Yang Dong, Xiaolan Cui, Longmei Xu, Ming Zhang, and Qiang Xia
- 107 **★Calcineurin and Sorting-Related Receptor with A-Type Repeats Interact to Regulate the Renal Na⁺-K⁺-2Cl⁻ Cotransporter**
Aljona Borschewski, Nina Himmerkus, Christin Boldt, Katharina I. Blankenstein, James A. McCormick, Rebecca Lazelle, Thomas E. Willnow, Vera Jankowski, Allein Plain, Markus Bleich, David H. Ellison, Sebastian Bachmann, and Kerim Mutig
- 120 **ADAMTS13 Endopeptidase Protects against Vascular Endothelial Growth Factor Inhibitor-Induced Thrombotic Microangiopathy**
Luise Erpenbeck, Melanie Demers, Zsuzsanna K. Zsengellér, Maureen Gallant, Stephen M. Cifuni, Isaac E. Stillman, S. Ananth Karumanchi, and Denisa D. Wagner
• See related editorial by Johnson and Nangaku (pp. 3–5).
- 132 **IL-6 Trans-Signaling Drives Murine Crescentic GN**
Gerald S. Braun, Yoshikuni Nagayama, Yuichi Maruta, Felix Heymann, Claudia R. van Roeyen, Barbara M. Klinkhammer, Peter Boor, Luigi Villa, David J. Salant, Ute Raffetseeder, Stefan Rose-John, Tammo Ostendorf, and Jürgen Floege
- 144 **Podocyte p53 Limits the Severity of Experimental Alport Syndrome**
Ryosuke Fukuda, Mary Ann Suico, Yukari Kai, Kohei Omachi, Keishi Motomura, Tomoaki Koga, Yoshihiro Komohara, Kosuke Koyama, Tsubasa Yokota, Manabu Taura, Tsuyoshi Shuto, and Hirofumi Kai
- 159 **★Differential Ly6C Expression after Renal Ischemia-Reperfusion Identifies Unique Macrophage Populations**
Meghan Clements, Michael Gershenovich, Christopher Chaber, Juanita Campos-Rivera, Pan Du, Mindy Zhang, Steve Ledbetter, and Anna Zuk
- 172 **Nuclear Factor Erythroid 2-Related Factor 2 Drives Podocyte-Specific Expression of Peroxisome Proliferator-Activated Receptor γ Essential for Resistance to Crescentic GN**
Carole Henique, Guillaume Bollee, Olivia Lenoir, Neeraj Dhaun, Marine Camus, Anna Chipont, Kathleen Flosseau, Chantal Mandet, Masayuki Yamamoto, Alexandre Karras, Eric Thervet, Patrick Bruneval, Dominique Nochy, Laurent Mesnard, and Pierre-Louis Tharoux
- 189 **★The Aryl Hydrocarbon Receptor is a Critical Regulator of Tissue Factor Stability and an Antithrombotic Target in Uremia**
Sowmya Shivanna, Kumaran Kolandaivelu, Moshe Shashar, Mostafa Belghasim, Laith Al-Rabadi, Mercedes Balcells, Anqi Zhang, Janice Weinberg, Jean Francis, Michael P. Pollastri, Elazer R. Edelman, David H. Sherr, and Vipul C. Chitalia
- 203 **Inhibition of SET Domain-Containing Lysine Methyltransferase 7/9 Ameliorates Renal Fibrosis**
Kensuke Sasaki, Shigehiro Doi, Ayumu Nakashima, Taisuke Irifuku, Kyoko Yamada, Keiko Kokoroishi, Toshinori Ueno, Toshiki Doi, Eisuke Hida, Koji Arihiro, Nobuoki Kohno, and Takao Masaki
- 216 **Podocyte-Specific Deletion of Yes-Associated Protein Causes FSGS and Progressive Renal Failure**
Monica Schwartzman, Antoine Reginensi, Jenny S. Wong, John M. Basgen, Kristin Meliambro, Susanne B. Nicholas, Vivette D'Agati, Helen McNeill, and Kirk N. Campbell
- CLINICAL EPIDEMIOLOGY**
- 227 **★Low Vitamin D and High Fibroblast Growth Factor 23 Serum Levels Associate with Infectious and Cardiac Deaths in the HEMO Study**
Michel Chonchol, Tom Greene, Yingying Zhang, Andrew N. Hoofnagle, and Alfred K. Cheung
- CLINICAL RESEARCH**
- 239 **Calcification Propensity and Survival among Renal Transplant Recipients**
Charlotte A. Keyzer, Martin H. de Borst, Else van den Berg, Willi Jahnhen-Dechent, Spyridon Arampatzis, Stefan Farese, Ivo P. Bergmann, Jürgen Floege, Gerjan Navis, Stephan J.L. Bakker, Harry van Goor, Ute Eisenberger, and Andreas Pasch
- 249 **Long-Term Lithium Use and Risk of Renal and Upper Urinary Tract Cancers**
Anton Pottegård, Jesper Hallas, Boye L. Jensen, Kirsten Madsen, and Søren Friis
- 256 **★Serum-Mediated Inhibition of Enzyme Replacement Therapy in Fabry Disease**
Malte Lenders, Jörg Stypmann, Thomas Duning, Boris Schmitz, Stefan-Martin Brand, and Eva Brand

- 265 The Renin-Angiotensin and Renal Dopaminergic Systems Interact in Normotensive Humans**
Aruna R. Natarajan, Gilbert M. Eisner, Ines Armando, Shaunagh Browning, John C. Pezzullo, Lauren Rhee, Mustafa Dajani, Robert M. Carey, and Pedro A. Jose
- 281 Proteinuria as a Noninvasive Marker for Renal Allograft Histology and Failure: An Observational Cohort Study**
Maarten Naesens, Evelyne Lerut, Marie-Paule Emonds, Albert Herelixa, Pieter Evenepoel, Kathleen Claes, Bert Bammens, Ben Sprangers, Björn Meijers, Ina Jochmans, Diethard Monbaliu, Jacques Pirenne, and Dirk R.J. Kuypers
- 293 IgG Donor-Specific Anti-Human HLA Antibody Subclasses and Kidney Allograft Antibody-Mediated Injury**
Carmen Lefaucheur, Denis Viglietti, Carol Bentejewski, Jean-Paul Duong van Huyen, Dewi Vernerey, Olivier Aubert, Jérôme Verine, Xavier Jouven, Christophe Legendre, Denis Glotz, Alexandre Loupy, and Adriana Zeevi
• See related editorial by Jordan (pp. 6–8).
- 305 Serum Trimethylamine-N-Oxide is Elevated in CKD and Correlates with Coronary Atherosclerosis Burden**
Jason R. Stubbs, John A. House, A. Jacob Ocque, Shiqin Zhang, Kimber, Kyle Schmidt, Aditi Gupta, James B. Wetmore, Thomas D. Nolin, John A. Spertus, and Alan S. Yu
• See related editorial by Tang (pp. 8–10).
- 314 Normal 25-Hydroxyvitamin D Levels Are Associated with Less Proteinuria and Attenuate Renal Failure Progression in Children with CKD**
Rukshana Shroff, Helen Aitkenhead, Nikola Costa, Antonella Trivelli, Mieczyslaw Litwin, Stefano Picca, Ali Anarat, Peter Sallay, Fatih Ozaltin, Aleksandra Zurowska, Augustina Jankauskiene, Giovanni Montini, Marina Charbit, Franz Schaefer, and Elke Wühl, for the ESCAPE Trial Group
- 324 ★Markers of Endothelial-to-Mesenchymal Transition: Evidence for Antibody-Endothelium Interaction during Antibody-Mediated Rejection in Kidney Recipients**
Yi-Chun Xu-Dubois, Julie Peltier, Isabelle Brocheriou, Caroline Suberbielle-Boissel, Arjang Djamali, Shannon Reese, Nuala Mooney, Zela Keuylian, Julien Lion, Nacéra Ouali, Pierre P. Levy, Chantal Jouanneau, Eric Rondeau, and Alexandre Hertig
- 333 ERRATUM**