

# CJASN

Clinical Journal of the American Society of Nephrology

January 2012 • Vol. 7 • No. 1

## Editorials

---

**1 CJASN—One Year Later**

*Gary C. Curhan*

**2 A New CJASN Feature: CJASN's eJournal Club (eJC)**

*David S. Goldfarb and Gary C. Curhan*

**3 Venous Thromboembolism and Membranous Nephropathy: So What's New?**

*Jai Radhakrishnan*

*See related article on page 43.*

**5 Dialysate Sodium and the *Milieu Intérieur***

*Finnian R. Mc Causland, B. S. Tilley, and Sushrut S. Waikar*

*See related article on page 92.*

**8 Expect the Unexpected: Sudden Cardiac Death in Dialysis Patients**

*Rulan S. Parekh*

*See related articles on pages 116 and 123.*

**12 Thyroid Function and Clinical Outcomes in Kidney Failure**

*Carmine Zoccali and Francesca Mallamaci*

*See related article on page 131.*

## Original Articles

---

### Acute Kidney Injury/Acute Renal Failure

**15 Are Surrogate Assumptions and Use of Diuretics Associated with Diagnosis and Staging of Acute Kidney Injury after Cardiac Surgery?**

*Andrew J. Sims, Hayder K. Hussein, Mahesh Prabhu, and N. Suren Kanagasundaram*

### Chronic Kidney Disease

**24 Adding Specialized Clinics for Remote-Dwellers with Chronic Kidney Disease: A Cost-Utility Analysis**

*Natasha Wiebe, Scott W. Klarenbach, Betty Chui, Bharati Ayyalasomayajula, Brenda R. Hemmelgarn, Kailash Jindal, Braden Manns, and Marcello Tonelli, on behalf of the Alberta Kidney Disease Network*

**35 Timing and Determinants of Erythropoietin Deficiency in Chronic Kidney Disease**

*Lucile Mercadal, Marie Metzger, Nicole Casadevall, Jean Philippe Haymann, Alexandre Karras, Jean-Jacques Boffa, Martin Flamant, François Vrtovsnik, Bénédicte Stengel, and Marc Froissart, on behalf of the NephroTest Study Group*

### Clinical Nephrology

**43 Venous Thromboembolism in Patients with Membranous Nephropathy**

*Sophia Lionaki, Vimal K. Derebail, Susan L. Hogan, Sean Barbour, Taewoo Lee, Michelle Hladunewich, Allen Greenwald, Yichun Hu, Caroline E. Jennette, J. Charles Jennette, Ronald J. Falk, Daniel C. Cattran, Patrick H. Nachman, and Heather N. Reich*

*See related editorial on page 3.*

**52 The Effect of High-Flux Hemodialysis on Hemoglobin Concentrations in Patients with CKD: Results of the MINOXIS Study**

*Andreas Schneider, Christiane Drechsler, Vera Krane, Detlef H. Krieter, Hubert Scharnagl, Markus P. Schneider, and Christoph Wanner, for the MINOXIS Study Investigators*

- 60 The Effectiveness of Long-Term Agalsidase Alfa Therapy in the Treatment of Fabry Nephropathy**  
*Sandro Feriozzi, Joan Torras, Markus Cybulla, Kathy Nicholls, Gere Sunder-Plassmann, and Michael West, on behalf of the FOS Investigators*

Critical Care Nephrology

- 70 Vascular Access Sites for Acute Renal Replacement in Intensive Care Units**  
*Audrey E. Dugué, Stéphanie P. Levesque, Marc-Olivier Fischer, Bertrand Souweine, Jean-Paul Mira, Bruno Megarbane, Cédric Daubin, Damien du Cheyron, and Jean-Jacques Parienti, for the Cathedia Study Group*

Diabetes and the Kidney

- 78 Early Renal Function Decline in Type 2 Diabetes**  
*Meda E. Pavkov, William C. Knowler, Kevin V. Lemley, Clinton C. Mason, Bryan D. Myers, and Robert G. Nelson*

Epidemiology and Outcomes

- 85 Serum Fibroblast Growth Factor-23 and Risk of Incident Chronic Kidney Disease in Older Community-Dwelling Women**  
*Richard D. Semba, Jeffrey C. Fink, Kai Sun, Anne R. Cappola, Mansi Dalal, Candace Crasto, Luigi Ferrucci, and Linda P. Fried*

- 92 Dialysate Sodium Concentration and the Association with Interdialytic Weight Gain, Hospitalization, and Mortality**  
*Manfred Hecking, Angelo Karaboyas, Rajiv Saran, Ananda Sen, Masaaki Inaba, Hugh Rayner, Walter H. Hörl, Ronald L. Pisoni, Bruce M. Robinson, Gere Sunder-Plassmann, and Friedrich K. Port*  
*See related editorial on page 5.*

- 101 Racial Differences in the Incidence of Chronic Kidney Disease**  
*Paul Muntner, Britt Newsome, Holly Kramer, Carmen A. Peralta, Yongin Kim, David R. Jacobs Jr, Catarina I. Kiefe, and Cora E. Lewis*

- 108 Seasonal Variations in Mortality, Clinical, and Laboratory Parameters in Hemodialysis Patients: A 5-Year Cohort Study**  
*Len A. Usvyat, Mary Carter, Stephan Thijssen, Jeroen P. Kooman, Frank M. van der Sande, Paul Zabetakis, Paul Balter, Nathan W. Levin, and Peter Kotanko*

- 116 Improving Ascertainment of Sudden Cardiac Death in Patients with End Stage Renal Disease**  
*Patrick H. Pun, Charles A. Herzog, and John P. Middleton*  
*See related editorial on page 8.*

ESRD and Chronic Dialysis

- 123 Predictors of Sudden Cardiac Death: A Competing Risk Approach in the Hemodialysis Study**  
*Shani Shastri, Navdeep Tangri, Hocine Tighiouart, Gerald J. Beck, Panagiotis Vlagopoulos, Daniel Ornt, Garabed Eknoyan, John W. Kusek, Charles Herzog, Alfred K. Cheung, and Mark J. Sarnak*  
*See related editorial on page 8.*

- 131 Baseline Levels and Trimestral Variation of Triiodothyronine and Thyroxine and Their Association with Mortality in Maintenance Hemodialysis Patients**  
*Christiaan L. Meuwese, Friedo W. Dekker, Bengt Lindholm, Abdul R. Qureshi, Olof Heimbürger, Peter Barany, Peter Stenvinkel, and Juan J. Carrero*  
*See related editorial on page 12.*

Mineral Metabolism/Bone Disease

- 139 (1-34) Parathyroid Hormone Infusion Acutely Lowers Fibroblast Growth Factor 23 Concentrations in Adult Volunteers**  
*Orlando M. Gutiérrez, Kelsey T. Smith, Allison Barchi-Chung, Neha M. Patel, Tamara Isakova, and Myles Wolf*

## Original Articles (Continued)

---

### 146 Early Skeletal and Biochemical Alterations in Pediatric Chronic Kidney Disease

*Katherine Wesseling-Perry, Renata C. Pereira, Chi-Hong Tseng, Robert Elashoff, Joshua J. Zaritsky, Ora Yadin, Shobha Sahney, Barbara Gales, Harald Jüppner, and Isidro B. Salusky*

#### Renal Transplantation

### 153 Does Allograft Failure Impact Infection Risk on Peritoneal Dialysis: A North American Pediatric Renal Trials and Collaborative Studies Study

*Ashton Chen, Karen Martz, and Panduranga S. Rao*

### 158 The Influence of Induction Therapy for Kidney Transplantation after a Non-Renal Transplant

*James R. Cassuto, Matthew H. Levine, Peter P. Reese, Roy D. Bloom, Simin Goral, Ali Naji, and Peter L. Abt*

## Mini-Review

---

### 167 Traditional Urinary Biomarkers in the Assessment of Hospital-Acquired AKI

*Mark A. Perazella and Steven G. Coca*

## In-Depth Review

---

### 175 AKI Associated with Macroscopic Glomerular Hematuria: Clinical and Pathophysiologic Consequences

*Juan Antonio Moreno, Catalina Martín-Cleary, Eduardo Gutiérrez, Oscar Toldos, Luis Miguel Blanco-Colio, Manuel Praga, Alberto Ortiz, and Jesús Egido*

## Special Feature

---

### 185 Informing Our Elders About Dialysis: Is an Age-Attuned Approach Warranted?

*Rebecca J. Schmidt*

### On the Cover

*What's the diagnosis?* Plasma cell dyscrasias may result in production of an abnormal immunoglobulin (paraprotein), with affinity to deposit in the kidney (amyloidosis or monoclonal immunoglobulin deposition disease) or to filter into the tubule, with consequent reabsorption by the tubular epithelium (light chain tubulopathy, crystal storing histiocytosis) or with intraluminal cast formation (cast nephropathy, myeloma kidney). Therefore, patients with multiple myeloma may have a variety of presentations of the kidney disease, but "myeloma kidney" specifically refers to cast nephropathy. Light chain casts may obstruct many tubules and are characterized by PAS-negative reaction, waxy texture and fractured appearance, and the presence of brisk inflammatory reaction of the surrounding tissue with multinucleated giant cells on light microscopy. Immunofluorescence studies show restriction to one of the light chains. In typical cases of cast nephropathy, electron microscopy confirms the absence of dense deposits in the tissue and shows very dark (electron dense) intraluminal cast material, with homogeneous texture and no substructural details. Occasionally, light chains will form unusual crystals within the lumen of the tubules, as shown on this electron micrograph. The crystals are intraluminal (extracellular), they are very electron dense, mostly needle-shaped or rod-like, but generally of variable shape and size. This variant of cast nephropathy with extraordinary and breathtaking morphological features is of no clinical relevance, as these patients usually present with typical features of cast nephropathy. (Image and text provided by Dr. Vanesa Bijol, Brigham and Women's Hospital)