

# CJASN

Clinical Journal of the American Society of Nephrology

June 2015 • Vol. 10 • No. 6


## Editorials

---

- 911** **BP Components in Advanced CKD and the Competing Risks of Death, ESRD, and Cardiovascular Events**  
*Arjun D. Sinha and Rajiv Agarwal*  
*See related article on page 934.*
- 914** **Should Hemoglobin A1C Be Routinely Measured in Patients with CKD?**  
*Nisha Bansal and Michael G. Shlipak*  
*See related article on page 957.*
- 917** **Low-T3 Syndrome in Peritoneal Dialysis: Metabolic Adaptation, Marker of Illness, or Mortality Mediator?**  
*Connie M. Rhee*  
*See related article on page 975.*
- 920** **Mortality in the Elderly on Dialysis: Is This the Right Debate?**  
*Osasuyi Iyasere and Edwina A. Brown*  
*See related article on page 983.*
- 923** **Induction Therapy in Renal Transplantation: Why? What Agent? What Dose? We May Never Know**  
*Alexander C. Wiseman*  
*See related article on page 1041.*

## Original Articles

---

- Acute Kidney Injury**
- 926**  **Associations between Intensity of RRT, Inflammatory Mediators, and Outcomes**  
*Raghavan Murugan, Xiaoyan Wen, Christopher Keener, Francis Pike, Paul M. Palevsky, Mark Unruh, Kevin Finkel, Anitha Vijayan, Michele Elder, Yi-Fan Chen, and John A. Kellum on behalf of the Biological Markers of Recovery for the Kidney (BioMaRK) Study Investigators*
- Chronic Kidney Disease**
- 934** **Association of BP with Death, Cardiovascular Events, and Progression to Chronic Dialysis in Patients with Advanced Kidney Disease**  
*Shyamal Palit, Michel Chonchol, Alfred K. Cheung, James Kaufman, Gerard Smits, and Jessica Kendrick*  
*See related editorial on page 911.*
- Epidemiology and Outcomes**
- 941** **Change in Multiple Filtration Markers and Subsequent Risk of Cardiovascular Disease and Mortality**  
*Casey M. Rebholz, Morgan E. Grams, Kunihiro Matsushita, Lesley A. Inker, Meredith C. Foster, Andrew S. Levey, Elizabeth Selvin, and Josef Coresh*
- 949** **Sleep-Disordered Breathing in Patients with Polycystic Liver and Kidney Disease Referred for Transcatheter Arterial Embolization**  
*Keiichi Sumida, Junichi Hoshino, Tatsuya Suwabe, Takatoshi Kasai, Noriko Hayami, Koki Mise, Masahiro Kawada, Aya Imafuku, Rikako Hiramatsu, Eiko Hasegawa, Masayuki Yamanouchi, Naoki Sawa, Koji Narui, Kenmei Takaichi, and Yoshifumi Ubara*

**957 Glycated Hemoglobin Level and Mortality in a Nondiabetic Population with CKD**

Claire Trivin, Marie Metzger, Jean-Philippe Haymann, Jean-Jacques Boffa, Martin Flamant, François Vrtovsnik, Pascal Houillier, Benedicte Stengel, and Eric Thervet on behalf of the NephroTest Study Group  
See related editorial on page 914.

**965 Association of Height with Mortality in Patients Undergoing Maintenance Hemodialysis**

Bryan B. Shapiro, Elani Streja, Vanessa A. Ravel, Kamyar Kalantar-Zadeh, and Joel D. Kopple

**ESRD and Chronic Dialysis**

**975 Low Triiodothyronine Syndrome and Long-Term Cardiovascular Outcome in Incident Peritoneal Dialysis Patients**

Tae Ik Chang, Joo Young Nam, Sug Kyun Shin, and Ea Wha Kang  
See related editorial on page 917.

**983 Dialysis Modality and Mortality in the Elderly: A Meta-Analysis**

Seung Seok Han, Jae Yoon Park, Soohee Kang, Kyoung Hoon Kim, Dong-Ryeol Ryu, Hyunwook Kim, Kwon Wook Joo, Chun Soo Lim, Yon Su Kim, and Dong Ki Kim  
See related editorial on page 920.

**994 Comparison of Subdural Hematoma Risk between Hemodialysis and Peritoneal Dialysis Patients with ESRD**

I-Kuan Wang, Yu-Kai Cheng, Cheng-Li Lin, Chiao-Ling Peng, Che-Yi Chou, Chiz-Tzung Chang, Tzung-Hai Yen, Chiu-Ching Huang, Fung-Chang Sung, and Chung Y. Hsu

**1002 Obstructive Sleep Apnea Severity and Overnight Body Fluid Shift before and after Hemodialysis**

Adam Ogna, Valentina Forni Ogna, Alexandra Mihalache, Menno Pruijm, Georges Halabi, Olivier Phan, Françoise Cornette, Isabelle Bassi, José Haba Rubio, Michel Burnier, and Raphaël Heinzer

**Genetics**

**1011 Characterization of a New *DGKE* Intronic Mutation in Genetically Unsolved Cases of Familial Atypical Hemolytic Uremic Syndrome**

Caterina Mele, Mathieu Lemaire, Paraskevas Iatropoulos, Rossella Piras, Elena Bresin, Serena Bettoni, David Bick, Daniel Helbling, Regan Veith, Elisabetta Valoti, Roberta Donadelli, Luisa Murer, Maria Neunhäuserer, Matteo Breno, Véronique Frémeaux-Bacchi, Richard Lifton, Giuseppe Remuzzi, and Marina Noris

**Mineral Metabolism/Bone Disease**

**1021 Effect of Cinacalcet and Vitamin D Analogs on Fibroblast Growth Factor-23 during the Treatment of Secondary Hyperparathyroidism**

Stuart M. Sprague, James B. Wetmore, Konstantin Gurevich, Gerald Da Roza, John Buerkert, Maureen Reiner, William Goodman, and Kerry Cooper

**1031 A Randomized Trial of Cinacalcet versus Vitamin D Analogs as Monotherapy in Secondary Hyperparathyroidism (PARADIGM)**

James B. Wetmore, Konstantin Gurevich, Stuart Sprague, Gerald Da Roza, John Buerkert, Maureen Reiner, William Goodman, and Kerry Cooper

**Renal Transplantation**

**1041 Induction Therapies in Live Donor Kidney Transplantation on Tacrolimus and Mycophenolate With or Without Steroid Maintenance**

Bekir Tanriover, Song Zhang, Malcolm MacConmara, Ang Gao, Burhaneddin Sandikci, Mehmet U. S. Ayyaci, Mutlu Mete, Demetra Tsapepas, Nilum Rajora, Prince Mohan, Ronak Lakhia, Christopher Y. Lu, and Miguel Vazquez  
See related editorial on page 923.

---

**Renal Physiology**

**1050 Regulation of Potassium Homeostasis**

Biff F. Palmer

## Role of the Medical Director

---

### **1061 What Medical Directors Need to Know about Dialysis Facility Water Management**

*Ted Kasperek and Oscar E. Rodriguez*

## Attending Rounds

---

### **1072 Timing of Initiation of RRT and Modality Selection**

*Joanne M. Bargman*

## Controversies in Nephrology

---

### **1079 Albuminuria Is an Appropriate Therapeutic Target in Patients with CKD: The Pro View**

*Hiddo J. Lambers Heerspink and Ron T. Gansevoort*

### **1089 Albuminuria is Not an Appropriate Therapeutic Target in Patients with CKD: The Con View**

*Linda F. Fried and Julia Lewis*

### **1095 Rebuttal of the Pro View: Albuminuria Is an Appropriate Therapeutic Target in Patients with CKD**

*Linda F. Fried and Julia Lewis*

### **1099 Rebuttal of the Con View: Albuminuria Is an Appropriate Therapeutic Target in Patients with CKD**


*Hiddo J. Lambers Heerspink and Ron T. Gansevoort*

## Special Feature

---

### **1100 American Society of Nephrology Quiz and Questionnaire 2014: RRT**

*Rajnish Mehrotra, Mark A. Perazella, and Michael J. Choi*

 eJournal club provides a timely and interactive electronic journal club experience by offering a forum in which CJASN readers have the opportunity to converse with the featured study authors. Visit [ejc.cjasn.org](http://ejc.cjasn.org) to learn more.

### **On the Cover**

*What's the diagnosis?* Atheroembolic renal disease (AERD) also known as cholesterol embolization syndrome, cholesterol crystal embolization or atheroembolism occurs due to destabilization of atherosclerotic plaques. Cholesterol crystals and other contents of an atherosclerotic plaque embolize from a large artery, travel through the circulation and lodge in small arteries, causing ischemic end-organ damage. This may occur spontaneously or may follow angiography, anticoagulation, thrombolysis or coronary artery bypass grafting. Erosion of atheromatous plaque is most likely to occur in the abdominal aorta. Kidneys become a major target in cholesterol crystal embolization since the renal arteries have their origin from abdominal aorta and large fraction of the cardiac output flows through the kidneys. Renal arteries, arterioles or glomerular capillaries may get occluded by atheroemboli. The clinical manifestations are extremely variable and AERD is often termed as 'the great masquerader'. The disease may present as sudden onset of acute renal failure or as slowly declining renal function over a period of several months. Renal biopsy confirms the diagnosis of AERD. This biopsy image shows an interlobar artery completely occluded by cholesterol crystals surrounded by multinucleated giant cells and fibrous tissue. The cholesterol crystals appear as biconvex, needle-shaped 'empty' clefts as the crystals are dissolved during routine histologic preparation. There is no specific therapy and treatment consists of supportive care and general management of atherosclerosis. (*Image and text provided by Anila Kurien, Center for Renal and Urological Pathology, Chennai, India and Krishnaswamy Sampathkumar, Meenakshi Mission Hospital, Nephrology, Tamil Nadu, India*)