Patient Voice

839  Depressive Symptoms and Rapid Kidney Function Decline
Mary H. Wu
See related article on page 889.

Editorials

840  Sincere Integration of Patients’ Perspectives into Kidney Care: Affirming and Adopting Patient Activation
Devika Nair and Kerri L. Cavanaugh
See related article on page 880.

843  Mineralocorticoid Receptor Antagonists and Cardiovascular Health with Kidney Failure
Qandeel H. Soomro and David M. Charytan
See related article on page 916.

846  Dialysis and Transplant Access: Kidney Capitalism at a Crossroads?
Divya Raghavan and Isaac E. Hall
See related article on page 926.

848  Dialyzing Acute Kidney Injury Patients after Hospital Discharge
Ian McCoy and Chi-yuan Hsu
See related article on page 853.

850  To Add Weight to Overweight
Maatje D.A. van Gastel and Esther Meijer
See related article on page 908.

Original Articles

Acute Kidney Injury and ICU Nephrology

853  Acute Kidney Injury Requiring Dialysis and Incident Dialysis Patient Outcomes in US Outpatient Dialysis Facilities
Claudia Dahlerus, Jonathan H. Segal, Kevin He, Wenbo Wu, Shu Chen, Tempie H. Shearon, Yating Sun, Aaron Pearson, Xiang Li, and Joseph M. Messana
See related editorial on page 848.

862  Severe Acute Kidney Injury and Mortality in Extremely Low Gestational Age Neonates
Sangeeta Hingorani, Robert H. Schmicker, Patrick D. Brophy, Patrick J. Heagerty, Sandra E. Juul, Stuart L. Goldstein, and David Askenazi, on behalf of the PENUM Investigators

Chronic Kidney Disease

870  Smoking Cessation and Coronary Artery Calcification in CKD
Mi Jung Lee, Jung Tak Park, Tae Ik Chang, Young Su Joo, Tae-Hyun Yoo, Sue Kyung Park, Wookyoung Chung, Yong-Soo Kim, Soo Wan Kim, Kook-Hwan Oh, Shin-Wook Kang, Kyu Hun Choi, Curie Ahn, and Seung Hyeok Han

880  Reliability and Validity of the Patient Activation Measure in Kidney Disease: Results of Rasch Analysis
Courtney J. Lightfoot, Thomas J. Wilkinson, Katherine E. Memory, Jared Palmer, and Alice C. Smith
See related editorial on page 840.
Association of Depressive Symptoms with Rapid Kidney Function Decline in Adults with Normal Kidney Function
Zhuxian Zhang, Panpan He, Mengyi Liu, Chun Zhou, Chengzhang Liu, Huan Li, Yuanyuan Zhang, Qinjin Li, Ziliang Ye, Qimeng Wu, Guobao Wang, Min Liang, and Xianhui Qin
See related Patient Voice on page 839.

Comparative Risks of Nonsteroidal Anti-Inflammatory Drugs on CKD
Eric Yuk Fai Wan, Esther Yee Tak Yu, Linda Chan, Anna Hoi Ying Mok, Yuan Wang, Esther Wai Yin Chan, Ian Chi Kei Wong, and Cindy Lo Kuen Lam

Cystic Kidney Disease

Overweight and Obesity and Progression of ADPKD
Kristen L. Nowak, Cortney Steele, Berenice Gitomer, Wenchyi Wang, John Ouyang, and Michel B. Chonchol
See related editorial on page 850.

Maintenance Dialysis

Efficacy and Safety of Mineralocorticoid Receptor Antagonists in Kidney Failure Patients Treated with Dialysis: A Systematic Review and Meta-Analysis
Kuan-Ting Chen, Yi-No Kang, Yen-Chung Lin, I-Lin Tsai, Wei-Chiao Chang, Te-Chao Fang, Mai-Szu Wu, and Chih-Chin Kao
See related editorial on page 843.

Transplantation

Dialysis Facility Profit Status and Early Steps in Kidney Transplantation in the Southeastern United States
Laura J. McPherson, Elizabeth R. Walker, Yi-Ting Hana Lee, Jennifer C. Gander, Zhensheng Wang, Amber M. Reeves-Daniel, Teri Browne, Matthew J. Ellis, Ana P. Rossi, Stephen O. Pastan, and Rachel E. Patzer, on behalf of the Southeastern Kidney Transplant Coalition
See related editorial on page 846.

Research Letters

Vaccines and Disease Relapses in Children with Nephrotic Syndrome
Andrea Angeletti, Maurizio Bruschi, Silvia Bianchin, Irene Bonato, Carolina Montobbio, Enrico Verrina, Francesca Lugani, Paolo Cravedi, and Gian Marco Chiggeri

Limited Significance of Antifactor H Antibodies in Patients with Membranous Nephropathy
Amit Sethi, Jing Miao, Maria Alice V. Willrich, Jody L. Frinack, Daniel C. Catran, and Fernando C. Fervenza, for the MENTOR Study Investigators

Genomics of Kidney Disease

Inherited Kidney Complement Diseases
Mathieu Lemaire, Damien Noone, Anne-Laure Lapeyraque, Christoph Licht, and Véronique Frémeaux-Bacchi

Kidney Case Conference: Nephrology Quiz and Questionnaire

Post-Transplant CMV Glomerulitis
Fahad Aziz and Arjang Djamali

Perspectives

The Influence of Medical School Debt on Career Choices in Nephrology
Charles Ginsberg

eGFR Testing around the World: Justice, Access, and Accuracy
Vivekanand Jha and Gopesh K. Modi

Contextualizing the FHN Nocturnal Trial a Decade Later: How Nocturnal Home Hemodialysis is Performed Matters to Outcomes
Robert P. Pauly and Brent W. Miller

BLISS in the Treatment of Lupus Nephritis
Joshua M. Thurman
On the Cover

**What is the diagnosis?**

A 45-year-old male developed fever, weight loss, and persistent cough of 3 months’ duration. His sputum was positive for *Mycobacterium tuberculosis*, and he was started on antitubercular treatment with four drugs: isoniazid, rifampicin, ethambutol, and pyrazinamide. His baseline kidney and liver function tests, before initiating antituberculous therapy, were normal. Two weeks later, he presented with edema, breathlessness, oliguria with kidney failure requiring dialysis, and serum creatinine of 7.2 mg/dl. His laboratory tests were significant for hemoglobin with a level of 8.3 g/dl, bilirubin of 3.2 mg/dl with mild transaminitis, and serum lactate dehydrogenase of 750 U/L. Antitubercular treatment was withheld, and kidney biopsy was performed.

**Image Description:**
The biopsy demonstrated histological features of acute tubular injury including loss of brush borders, flattening (simplification) of the tubular epithelial cells, and cell drop-off, and dissolution of the cytoplasm and in many of the tubular epithelial cells. Brightly eosinophilic granular-to-globular pigmented tubular casts were seen in some of the tubules. These casts were different from red cell casts as there was no identifiable residual red cell morphology (red cell ghosts) within them. There was mild interstitial edema, but no inflammatory cells were observed in the interstitium. No interstitial fibrosis or tubular atrophy was seen. Glomeruli and blood vessels appeared normal with no evidence of microangiopathy. The casts did not show light chain restriction on immunofluorescence test. They were negative for myoglobin immunohistochemical stain but strongly positive for hemoglobin immunohistochemical stain, thus establishing the diagnosis of hemoglobin cast nephropathy.

**Teaching Points:**
Rifampicin is routinely used in multidrug treatment regimens for tuberculosis, nontuberculous mycobacterial infections, and leprosy. AKI is not a common complication of this drug. The most frequent biopsy findings in rifampicin-associated AKI are acute interstitial nephritis and acute tubular injury. Rifampicin-associated AKI develops as a result of type II or III hypersensitivity reaction. Anti-rifampicin antibodies are known to develop. These may cross-react with blood group I antigen on red blood cells leading to complement-mediated hemolysis. Heme pigment is toxic to the tubular epithelial cells. It can precipitate with Tamm–Horsfall protein to form pigmented tubular casts. Hemoglobin cast nephropathy should be suspected if a patient on rifampicin therapy develops AKI. The accurate diagnosis requires a kidney biopsy with immunostain for hemoglobin.

After five sessions of hemodialysis, urine output improved and reached nadir creatinine of 1.4 mg/dl after 6 weeks. Antitubercular treatment was restarted sequentially without rifampicin, and the patient tolerated it well.

*(Text and images provided by Anila Abraham Kurien, Department of Pathology, Renopath Center for Renal and Urological Pathology, Chennai, India; Mynezhiselvi Murugan, Department of Nephrology, Madras Medical College, Chennai, India; and Gopalakrishnan Natarajan, Department of Nephrology, Madras Medical College, Chennai, India.)*