Patient Voice

1117 An ADPKD Patient’s View on Screening for Intracranial Aneurysms
   Kevin John Fowler
   See related article and editorial on pages 1151 and 1119, respectively.

Editorials

1119 Intracranial Aneurysms in ADPKD: How Far Have We Come?
   Ivana Y. Kuo and Arlene Chapman
   See related Patient Voice and article on pages 1117 and 1151, respectively.

1122 Does Epitope Spreading Influence Responsiveness to Rituximab in PLA2R-Associated Membranous Nephropathy?
   David J. Salant
   See related article on page 1173.

1125 Bariatric Surgery for ESKD Patients: Why, When, and How?
   Kevin F. Erickson and Sankar D. Navaneethan
   See related article on page 1193.

1128 Public Policy and Equal Access to Home Dialysis
   Kerri L. Cavanaugh
   See related article on page 1200.

1131 Patient-Centered Outcomes with Second Kidney Transplant
   Sumit Mohan and S. Ali Husain
   See related article on page 1228.

Original Articles

Chronic Kidney Disease

1133 Urinary Melamine Levels and Progression of CKD
   Yi-Chun Tsai, Chia-Fang Wu, Chia-Chu Liu, Tusty-Jiuan Hsieh, Yu-Ting Lin, Yi-Wen Chiu, Shang-Jyn Hwang, Hung-Chun Chen, and Ming-Tsang Wu

1142 Trends in Quality of Care for Patients with CKD in the United States
   Sri Lekha Tummalapalli, Neil R. Powe, and Salomeh Keyhani

Cystic Kidney Disease

1151 Presymptomatic Screening for Intracranial Aneurysms in Patients with Autosomal Dominant Polycystic Kidney Disease
   Irina M. Sanchis, Shehbaz Shukoor, Maria V. Irazabal, Charles D. Madsen, Fouad T. Chebib, Marie C. Hogan, Ziad El-Zoghby, Peter C. Harris, John Huston, Robert D. Brown, and Vicente E. Torres
   See related Patient Voice and editorial on pages 1117 and 1119, respectively.

Diabetes and the Kidney

1161 Efficacy and Safety of Esaxerenone (CS-3150) for the Treatment of Type 2 Diabetes with Microalbuminuria: A Randomized, Double-Blind, Placebo-Controlled, Phase II Trial
   Sadayoshi Ito, Kenichi Shikata, Masaomi Nangaku, Yasuyuki Okuda, and Tomoko Sawanobori
Glomerular and Tubulointerstitial Diseases

1173 High-Dose Rituximab and Early Remission in PLA2R1-Related Membranous Nephropathy
Barbara Seitz-Polski, Karine Dahan, Hanna Debiec, Alexandra Rousseau, Marine Andreani, Christelle Zaghrini, Michel Ticchioni, Alessandra Rosenthal, Sylvia Benzaken, Ghislaine Bernard, Gérard Lambeau, Pierre Ronco, and Vincent L.M. Esnault
See related editorial on page 1122.

1183 IgA Nephropathy in Elderly Patients
Angel M. Sevillano, Monserrat Díaz, Fernando Caravaca-Fontán, Clara Barrios, Carmen Bernis, Jimena Cabrera, Jesus Calviño, Lorena Castillo, Carmen Cobelo, Patricia Delgado-Mallén, Mario Espinosa, Gema Fernandez-Juarez, María Jose Fernandez-Reyes, Rosa García-Osuna, Patricia García, Marian Goicoechea, Fayna Gonzalez-Cabrera, Díomaris A. Guzmán, Manuel Heras, Guillermo Martín-Reyes, Alberto Martínez, Teresa Olea, Jessy Korina Peña, Luis F. Quintana, Cristina Rabasco, Katia López Revuelta, Lida Rodas, Nuria Rodríguez-Mendiola, Eva Rodríguez, Luz San Miguel, María Dolores Sanchez de la Nieta, Amir Shabaka, Milagros Sierra, Alfonso Valera, Mercedes Velo, Eduardo Verde, Jose Ballarin, Oscar Nooba, Juan Antonio Moreno, Eduardo Gutiérrez, and Manuel Praga, on behalf of the Spanish Group for the Study of Glomerular Diseases (GLOSEN)

Maintenance Dialysis

1193 Trends in Bariatric Surgery Procedures among Patients with ESKD in the United States
Kyle H. Sheetz, Kenneth J. Woodside, Vahakn B. Shahinian, Justin B. Dimick, John R. Montgomery, and Seth A. Waits
See related editorial on page 1125.

1200 Expanded Prospective Payment System and Use of and Outcomes with Home Dialysis by Race and Ethnicity in the United States
Jenny I. Shen, Kevin F. Erickson, Lucía Chen, Sitaram Vangala, Lynn Leng, Anuja Shah, Anjali B. Saxena, Jeffrey Perl, and Keith C. Norris
See related editorial on page 1128.

1213 Prediction of Risk of Death for Patients Starting Dialysis: A Systematic Review and Meta-Analysis
Ryan T. Anderson, Hailey Cleek, Atieh S. Pajouhi, M. Fernanda Bellolio, Ananya Mayukha, Allyson Hart, LaTonya J. Hickson, Molly A. Feely, Michael E. Wilson, Ryan M. Giddings Connolly, Patricia J. Erwin, Abdul M. Majzoub, Navdeep Tangri, and Bjorg Thorsteinsdottir

Transplantation

1228 Access to Kidney Transplantation after a Failed First Kidney Transplant and Associations with Patient and Allograft Survival: An Analysis of National Data to Inform Allocation Policy
Stephanie Clark, Matthew Kadatz, Jagbir Gill, and John S. Gill
See related editorial on page 1131.

Research Letter

1238 The Effect of Medicaid Expansion on Self-Reported Kidney Disease
Sri Lekha Tummalapalli, Samuel Leonard, Michelle M. Estrella, and Salomeh Keyhani

Erratum

1241 Correction

Kidney Case Conference: How I Treat

1242 Screening for Intracranial Aneurysms in Patients with Autosomal Dominant Polycystic Kidney Disease
Adrien Flahault and Dominique Joly

Kidney Case Conference: Nephrology Quiz and Questionnaire

1245 Metabolic Acidosis in a Patient with CKD
Qi Qian
Nephropharmacology for the Clinician

1248 Clinical Pharmacology in Diuretic Use
David H. Ellison

Perspectives

1258 The Status of Provision of Standard Outpatient Dialysis for US Undocumented Immigrants with ESKD
Lilia Cervantes, William Mundo, and Neil R. Powe

1261 Performance Measurement and the Kidney Quality Improvement Registry
Michael J. Fischer and Paul M. Palevsky

1264 IDEAL-ICU in Context
David E. Leaf and Sushrut S. Waikar

Review

1268 Managing Kidney Failure with Home Hemodialysis
Ali Ibrahim and Christopher T. Chan

On the Cover

What’s the diagnosis?

Case description:
A 66-year-old man with a history of cirrhosis, ureteral cancer status/post stent placement, aneurysm and coiling of the left renal artery, diabetes and hypertension was admitted to the hospital for pneumonia. Sputum cultures grew Stenotrophomonas maltophilia, for which he was initially treated with oral trimethoprim-sulfamethoxazole (TMP-SMX) 400/80 mg x 12 doses and then intravenous TMP-SMX 400 mg x 15 doses. The patient developed acute kidney injury, with a rise in serum creatinine from 0.9 mg/dL on the day of admission to 1.2 mg/dL on the first day of TMP-SMX use, rising to 2.3 mg/dL on day 12 of TMP-SMX. He also developed hyperkalemia to 5.3 mEq/L and a non-anion gap metabolic acidosis, prompting a nephrology consult. Urine was obtained for microscopic analysis, which revealed numerous rhomboid shaped crystals. It was suspected that sulfamethoxazole could be contributing to crystal-induced nephropathy. Sulfamethoxazole was immediately discontinued and intravenous sodium bicarbonate was given to alkalinize the urine. On repeat urine microscopy these crystals disappeared. The patient was diagnosed with crystal-induced nephropathy due to sulfamethoxazole. The patient’s kidney function worsened progressively and had to be initiated on dialysis. Fortunately, kidney function gradually recovered and the patient was able to come off of dialysis and serum creatinine went back to baseline.

Image Description:
Urine microscopy demonstrates large triangular to rhomboid shaped crystals. These crystals were birefringent under polarized light microscopy.

Image 1: Triangular sulfamethoxazole crystals, 400X
Image 2: Rhomboid sulfamethoxazole crystals, 100X
Image 3: Triangular sulfamethoxazole crystals under polarized light, 400X

Teaching Points:
Trimethoprim-sulfamethoxazole is a commonly prescribed antibiotic; side effects from trimethoprim include elevation of serum potassium and serum creatinine by inhibition of epithelial sodium channel in the distal nephron, while sulfamethoxazole may cause crystal-induced nephropathy.

- Sulfamethoxazole crystals are formed in an acidic pH and can appear in different shapes including rhomboid, triangular, sheaves of wheat, rosettes or needle-shaped.
- Alkalinization of urine may help increase the solubility of sulfamethoxazole and prevent crystallization.
- Sulfamethoxazole crystals are soluble in acetone; this can help differentiate between uric acid crystals and sulfamethoxazole crystals, as both can appear similar in shape and size, and both show birefringence under polarized light.
- Urine microscopy is an indispensable tool in the diagnostic evaluation of acute kidney injury.
- Our case emphasizes the need to be cognizant about medication-associated side effects, as prompt discontinuation of offending agents may help improve patient outcomes.

Acknowledgements: The patient’s family verbally consented to the use of data and imaging for the purpose of this publication. The patient’s identity is concealed and all sources of patient identifiers including patient’s date of birth, social security number or electronic medical record number are protected and concealed. The chances of breach of confidentiality and patient privacy is not possible and IRB approval was not obtained for this case report.

(Images and text provided by Syed Hassan Raza Bukhari, University of Virginia-Nephrology, Charlottesville, Virginia; Helen Cathro, University of Virginia-Pathology, Charlottesville, Virginia; and Joshua King, University of Virginia-Nephrology and Medical Toxicology) of Virginia-Nephrology and Medical Toxicology