

CJASN

Clinical Journal of the American Society of Nephrology

September 2018 • Vol. 13 • No. 9

Patient Voice

1305 Dementia in Dialysis: An Eye on Best Practices

Judy Weintraub

See related article on page 1339.

Editorials

1307 Determinants of Arteriovenous Fistula Maturation

Dirk M. Hentschel

See related articles on pages 1358 and 1364.

1309 Magnesium Concentration in Dialysate: Is Higher Better?

Jürgen Floege

See related article on page 1373.

1311 Gut-Derived Metabolites and Chronic Kidney Disease: The Forest (F) or the Trees?

Raymond Vanholder and Griet Glorieux

See related article on page 1398.

Original Articles

Chronic Kidney Disease

1314 Incident Atrial Fibrillation and the Risk of Stroke in Adults with Chronic Kidney Disease: The Stockholm CREATinine Measurements (SCREAM) Project

Juan Jesus Carrero, Marco Trevisan, Manish M. Sood, Peter Bárány, Hong Xu, Marie Evans, Leif Friberg, and Karolina Szummer

Clinical Nephrology

1321 Association of Urinary Biomarkers of Kidney Injury with Estimated GFR Decline in HIV-Infected Individuals following Tenofovir Disoproxil Fumarate Initiation

Simon B. Ascher, Rebecca Scherzer, Michelle M. Estrella, William R. Zhang, Anthony N. Muiro, Vasantha Jotwani, Carl Grunfeld, Chirag R. Parikh, Deborah Gustafson, Mary Young, Anjali Sharma, Mardge H. Cohen, Derek K. Ng, Frank J. Palella, Mallory D. Witt, Ken Ho, and Michael G. Shlipak

Genetics

1330 IgA Nephropathy Susceptibility Loci and Disease Progression

Manman Shi, Yan Ouyang, Mingxin Yang, Meng Yang, Xiaoyan Zhang, Wei Huang, Weiming Wang, Zhaohui Wang, Wen Zhang, Xiaonong Chen, Xiaoxia Pan, Hong Ren, Nan Chen, and Jingyuan Xie

Geriatric and Palliative Nephrology

1339 Dementia, Alzheimer's Disease, and Mortality after Hemodialysis Initiation

Mara A. McAdams-DeMarco, Matthew Daubresse, Sunjae Bae, Alden L. Gross, Michelle C. Carlson, and Dorry L. Segev

See related Patient Voice on page 1305.

Original Articles (Continued)

Hypertension

1348 Variations in 24-Hour BP Profiles in Cohorts of Patients with Kidney Disease around the World: The I-DARE Study

Paul E. Drawz, Roland Brown, Luca De Nicola, Naohiko Fujii, Francis B. Gabbai, Jennifer Gassman, Jiang He, Satoshi Iimuro, James Lash, Roberto Minutolo, Robert A. Phillips, Kyle Rudser, Luis Ruilope, Susan Steigerwalt, Raymond R. Townsend, Dawei Xie, Mahboob Rahman, and the CRIC Study Investigators

Maintenance Dialysis

1358 Association of Preexisting Arterial Intimal Hyperplasia with Arteriovenous Fistula Outcomes

Michael Allon, Silvio H. Litovsky, Yingying Zhang, Ha Le, Alfred K. Cheung, and Yan-Ting Shiu
See related editorial and article on pages 1307 and 1364.

1364 Postoperative Ultrasound, Unassisted Maturation, and Subsequent Primary Patency of Arteriovenous Fistulas

Crystal A. Farrington, Michelle L. Robbin, Timmy Lee, Jill Barker-Finkel, and Michael Allon
See related editorial and article on pages 1307 and 1358.

1373 The Effect of Increasing Dialysate Magnesium on Serum Calcification Propensity in Subjects with End Stage Kidney Disease: A Randomized, Controlled Clinical Trial

Iain Bressendorff, Ditte Hansen, Morten Schou, Andreas Pasch, and Lisbet Brandt
See related editorial on page 1309.

1381 Two-Year Observational Study of Bloodstream Infection Rates in Hemodialysis Facility Patients with and without Catheters

Robert S. Brown, Kristin Brickel, and Roger B. Davis

1389 Clinical and Economic Benefits of Antimicrobial Stewardship Programs in Hemodialysis Facilities: A Decision Analytic Model

Erika M.C. D'Agata, Diana Tran, Josef Bautista, Douglas Shemin, and Daniel Grima

1398 Characteristics of Colon-Derived Uremic Solutes

Robert D. Mair, Tammy L. Sirich, Natalie S. Plummer, and Timothy W. Meyer
See related editorial on page 1311.

Research Letter

1405 Circumstances of Death among Undocumented Immigrants Who Rely on Emergency-Only Hemodialysis

Lilia Cervantes, Ann O'Hare, Michel Chonchol, Madelyne Hull, Janice Van Bockern, Mandy Thompson, and Jeff Zoucha

Kidney Case Conference: How I Treat

1407 Management of the Incidental Kidney Mass in the Nephrology Clinic

Susie L. Hu and Robert H. Weiss

Kidney Case Conference: Nephrology Quiz and Questionnaire

1410 A Patient with Hemodialysis Access Problems

Vandana Dua Niyyar and Charmaine E. Lok

Nephro pharmacology for the Clinician

1413 Clinical Pharmacodynamics: Principles of Drug Response and Alterations in Kidney Disease

Frieder Keller and Alexander Hann

Perspectives

1421 The ABCs in the Mapping Progress in Reducing Cardiovascular Risk with Kidney Disease: An Introductory Remark on Expert Perspectives

Christoph Wanner
See related Perspectives on pages 1423, 1426, 1429, and 1432.

1423 Mapping Progress in Reducing Cardiovascular Risk with Kidney Disease: Atrial Fibrillation

Wolfgang C. Winkelmayr

See related Perspectives on pages 1421, 1426, 1429, and 1432.

1426 Mapping Progress in Reducing Cardiovascular Risk with Kidney Disease: A Focus on Heart Failure

Nisha Bansal

See related Perspectives on pages 1421, 1423, 1429, and 1432.

1429 Mapping Progress in Reducing Cardiovascular Risk with Kidney Disease: Sudden Cardiac Death

Tariq Shafi and Eliseo Guallar

See related Perspectives on pages 1421, 1423, 1426, and 1432.

1432 Mapping Progress in Reducing Cardiovascular Risk with Kidney Disease: Managing Volume Overload

Carmine Zoccali and Francesca Mallamaci

See related Perspectives on pages 1421, 1423, 1426, and 1429.

Feature

1435 Hemodiafiltration to Address Unmet Medical Needs ESKD Patients

Bernard Canaud, Jörg Vienken, Stephen Ash, and

Richard A. Ward, on behalf of the Kidney Health Initiative HDF Workgroup

1444 Regulatory Considerations for Hemodiafiltration in the United States

Richard A. Ward, Jörg Vienken, Douglas M. Silverstein, Stephen Ash, and

Bernard Canaud, on behalf of the Kidney Health Initiative HDF Workgroup

On the Cover

What's the diagnosis?

A 10-year-old girl was incidentally found to have severe hypertension (180/100 mmHg) while undergoing evaluation for right-sided hemihypertrophy. She was otherwise well and had no complaints. Family history was unremarkable. Physical exam was notable for coarse facies, enlarged right lower extremity, and paraumbilical bruit. Echocardiogram demonstrated mild left ventricular hypertrophy. C-reactive protein, serum aldosterone, plasma renin activity, serum creatinine, alpha-fetoprotein, and plasma metanephrines were normal. Kidney doppler sonography demonstrated elevated peak renal artery systolic velocities bilaterally with no parvus et tardus waveform. Abdominal computed tomography angiography confirmed the diagnosis.

Image Description:

Lateral view demonstrates a long segment of irregular stenosis of the mid abdominal aorta extending from below the diaphragm to the level of takeoff of the inferior mesenteric artery with focal stenoses at the origin of celiac trunk, superior and inferior mesenteric arteries. AP view demonstrates left renal artery stenosis, irregular stenosis at the aortic bifurcation, long segment stenosis of right internal iliac artery, and occlusion of left common iliac artery. Large splanchnic, lumbar and pelvic collaterals seen on both views provide compensatory flow.

Teaching Points:

- She was diagnosed with idiopathic midaortic syndrome and treated with 4 anti-hypertensive medications.
- Midaortic syndrome is the acquired or congenital narrowing of the abdominal aorta and associated branches. While congenital narrowing is due to incomplete or overfusion of the embryonic dorsal aortas, acquisition of the vascular anomalies postnatally has been linked to Williams syndrome, giant cell arteritis, mucopolysaccharidosis, fibromuscular dysplasia, neurofibromatosis, Alagille syndrome, and Moya-Moya disease. Many cases are idiopathic.
- Patients often present prior to adolescence with severe hypertension, headaches, claudication, or abdominal angina.
- Treatment involves antihypertensive medications and often requires surgery, including balloon angioplasty, vessel stenting, aorto-aortic bypass, patch aortoplasty, and aortic lengthening.
- Left untreated, patients usually die by their 40s from hypertensive complications.

(Images and text provided by Rachel Herdes, Cullen Clark, Nikita Patel, and Isa Ashoor, Louisiana State University Health Sciences Center, and Ewa Wasilewska, Tulane University School of Medicine)