Hypertension

Volume 70  Number 1  July 2017

Editorial Board ................................................................. 1

Clinical Implications ......................................................... 2

In Memoriam

Oliver Smithies: A Remembrance
Thomas M. Coffman .......................................................... 3

Recent Advances in Hypertension

Resistant Hypertension: An Update of Experimental and Clinical Findings
Anping Cai, David A. Calhoun ............................................. 5

Brief Review

How Is the Brain Renin–Angiotensin System Regulated?
Pablo Nakagawa, Curt D. Sigmund ....................................... 10

Excellence Award for Hypertension Research

Hypertension in Women: Recent Advances and Lingering Questions
Amier Ahmad, Suzanne Oparil ........................................... 19

* Online Data Supplement

Editorial Commentaries

Ambulatory Pulse Wave Velocity Monitoring: A Step Forward
Theodore G. Papaioannou, Dimitrios A. Vrachatis, Dimitris Tousoulis ............................................. 27

Delayed Response to Antihypertension Medication: A Harbinger of Stroke, Heart Failure,
and Vascular Disease
Merrill F. Elias, Rachael V. Torres ....................................... 30

Quarter Dose Combination Therapy: Good News for Blood Pressure Control
Guido Grassi, Giuseppe Mancia ........................................... 32

Of Mice and Renin
Michael Bader ....................................................................... 35

Aldosterone-Producing Adenomas: Genotypes and Phenotypes
Fumitoshi Satoh, Hironobu Sasano, Yuto Yamazaki, Sadayoshi Ito ......................................................... 38
Long-Standing Problem of β-Blocker–Elicited Hypoglycemia in Diabetes Mellitus
Edoardo Casiglia, Valérie Tikhonoff ........................................ 42

Original Articles

Epidemiology/Population
Orthostatic Hypotension and Risk of Incident Dementia: Results From a 12-Year Follow-Up of the Three-City Study Cohort
Antoine Cremer, Aicha Soumaré, Claudine Berr, Jean-François Dartigues, Audrey Gabelle, Philippe Gosse, Christophe Tzourio ........................................ 44

Online Data Supplement
Prevalence, Treatment, and Control Rates of Conventional and Ambulatory Hypertension Across 10 Populations in 3 Continents
Jesus D. Melgarejo, Gladys E. Maestre, Lutgarde Thijs, Kei Asayama, José Boggia, Edoardo Casiglia, Tine W. Hansen, Yutaka Imai, Lotte Jacobs, Jørgen Jeppesen, Kalina Kawecka-Jaszcz, Tatiana Kuznetsova, Yan Li, Sofia Malyutina, Yuri Nikitin, Takayoshi Ohkubo, Katarzyna Stolarz-Skrzypek, Ji-Guang Wang, Jan A. Staessen; on behalf of the International Database on Ambulatory Blood Pressure in Relation to Cardiovascular Outcomes (IDACO) Investigators ........................................ 50

Online Data Supplement
Association Between Endometriosis and Hypercholesterolemia or Hypertension

Race and Sex Differences of Long-Term Blood Pressure Profiles From Childhood and Adult Hypertension: The Bogalusa Heart Study
Wei Shen, Tao Zhang, Shengxu Li, Huijie Zhang, Bo Xi, Hongbing Shen, Camilo Fernandez, Lydia Bazzano, Jiang He, Wei Chen ........................................ 66

Online Data Supplement
Clinical Trials
Renin–Angiotensin–Aldosterone System Is Not Involved in the Arterial Stiffening Induced by Acute and Prolonged Exposure to High Altitude
Miriam Revera, Paolo Salvi, Andrea Faini, Andrea Giuliani, Francesca Gregorini, Grzegorz Bilo, Carolina Lombardi, Giuseppe Mancia, Piergiuseppe Agostoni, Gianfranco Parati; on behalf of the HIGHCARE Himalaya Investigators ........................................ 75

Online Data Supplement
Efficacy and Safety of Quarter-Dose Blood Pressure–Lowering Agents: A Systematic Review and Meta-Analysis of Randomized Controlled Trials
Alexander Bennett, Clara K. Chow, Michael Chou, Hakim-Moulay Dehbi, Ruth Webster, Abdul Salam, Anushka Patel, Bruce Neal, David Peiris, Jay Thakkar, John Chalmers, Mark Nelson, Christopher Reid, Graham S. Hills, Mark Woodward, Sarah Hilmer, Tim Usherwood, Simon Thom, Anthony Rodgers .............. 85

Editorial Commentary, p 32 Online Data Supplement
Heterogeneity in Early Responses in ALLHAT (Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial)
Sanket S. Dhruva, Chenxi Huang, Erica S. Spatz, Andreas C. Coppi, Frederick Warner, Shu-Xia Li, Haimun Lin, Xiao Xu, Curt D. Furberg, Barry R. Davis, Sara L. Pressel, Ronald R. Coifman, Harlan M. Krumholz ........................................ 94

Editorial Commentary, p 30 Online Data Supplement
Risk of Cardiovascular Events in Patients With Diabetes Mellitus on β-Blockers
Tetsuro Tsujimoto, Takehiro Sugiyama, Martin F. Shapiro, Mitsuhiko Noda, Hiroshi Kajio ........................................ 103

Editorial Commentary, p 42 Online Data Supplement
Kidney
Renal Dysfunction Induced by Kidney-Specific Gene Deletion of Hsd11b2 as a Primary Cause of Salt-Dependent Hypertension
Kohei Ueda, Mitsuhiro Nishimoto, Daigoro Hirohama, Nobuhiro Ayuzawa, Wakako Kawarazaki, Atsushi Watanabe, Tatsuo Shimosawa, Johannes Loffing, Ming-Zhi Zhang, Takeshi Marumo, Toshiro Fujita

Renin–Angiotensin System
Chronic Stimulation of Renin Cells Leads to Vascular Pathology
Masafumi Oka, Silvia Medrano, Maria Luisa S. Sequeira-López, R. Ariel Gómez

Primary Hyperaldosteronism
Aldosterone-Producing Adenomas: Histopathology–Genotype Correlation and Identification of a Novel CACNA1D Mutation

Heart
Mineralocorticoid Receptor Deficiency in T Cells Attenuates Pressure Overload–Induced Cardiac Hypertrophy and Dysfunction Through Modulating T-Cell Activation
Chao Li, Xue-Nan Sun, Meng-Ru Zeng, Xiao-Jun Zheng, Yu-Yao Zhang, Qiangyou Wan, Wu-Chang Zhang, Chaoji Shi, Lin-Juan Du, Tang-Jun Ai, Yuan Liu, Yan Liu, Li-Li Du, Yi Yi, Ying Yu, Sheng-Zhong Duan

Arterial Stiffness
Ambulatory Pulse Wave Velocity Is a Stronger Predictor of Cardiovascular Events and All-Cause Mortality Than Office and Ambulatory Blood Pressure in Hemodialysis Patients
Pantelis A. Sarafidis, Charalampos Loutradis, Antonios Karpetas, Georgios Tzanis, Alexia Piperidou, Georgios Koutroumpas, Vasilios Rapitis, Christos Syrgkanis, Vasilios Liakopoulos, Georgios Efstratiadis, Gérard London, Carmine Zoccali

Flow-Mediated Vasodilation
PGC-1α (Peroxisome Proliferator–Activated Receptor γ Coactivator 1-α) Overexpression in Coronary Artery Disease Recruits NO and Hydrogen Peroxide During Flow-Mediated Dilation and Protects Against Increased Intraluminal Pressure
Andrew O. Kadlec, Dawid S. Chabowski, Karima Ait-Aissa, Joseph C. Hockenberry, Mary F. Otterson, Matthew J. Durand, Julie K. Freed, Andreas M. Beyer, David D. Gutterman
Inflammation
Hypertension-Causing Mutation in Peroxisome Proliferator–Activated Receptor γ Impairs Nuclear Export of Nuclear Factor-κB p65 in Vascular Smooth Muscle
Masashi Mukohda, Ko-Ting Lu, Deng-Fu Guo, Jing Wu, Henry L. Keen, Xuebo Liu, Pimonrat Ketsawatsomkron, Madeliene Stump, Kamal Rahmouni, Frederick W. Quelle, Curt D. Sigmund 174

• Online Data Supplement

Regulatory T-Cell Augmentation or Interleukin-17 Inhibition Prevents Calcineurin Inhibitor–Induced Hypertension in Mice

• Online Data Supplement

Endothelin
First-in-Man Demonstration of Direct Endothelin-Mediated Natriuresis and Diuresis
Robert W. Hunter, Rebecca Moorhouse, Tariq E. Farrah, Iain M. MacIntyre, Takae Asai, Peter J. Gallacher, Debbie Kerr, Vanessa Melville, Alicja Czopek, Emma E. Morrison, Jess R. Ivy, James W. Dear, Matthew A. Bailey, Jane Goddard, David J. Webb, Neeraj Dhaun 192

• Online Data Supplement

Pregnancy and Hypertension
Pregnancy Outcome After First Trimester Use of Methyldopa: A Prospective Cohort Study
Maria Hoeltzenbein, Evelin Beck, Anne-Katrin Fietz, Juliane Wernicke, Sandra Zinke, Angela Kayser, Stephanie Padberg, Corinna Weber-Schoendorfer, Reinhard Meister, Christof Schaefer 201

• Online Data Supplement

Elevated Adenosine Induces Placental DNA Hypomethylation Independent of A2B Receptor Signaling in Preeclampsia
Aji Huang, Hongyu Wu, Takayuki Iriyama, Yujin Zhang, Kaiqi Sun, Anren Song, Hong Liu, Zhangzhe Peng, Lili Tang, Minjung Lee, Yun Huang, Xin Ni, Rodney E. Kellems, Yang Xia 209

• Online Data Supplement

Correction e1