Contents

Hypertension: From Basic Research to Clinical Practice Md. Shahidul Islam	1
Understanding Blood Pressure Variation and Variability: Biological Importance and Clinical Significance	3
Novel Pathophysiological Mechanisms in Hypertension Rohan Samson, Andrew Lee, Sean Lawless, Robert Hsu, and Gary Sander	21
Pathophysiological Mechanisms and Correlates of Therapeutic Pharmacological Interventions in Essential Arterial Hypertension	37
Francesco Maranta, Roberto Spoladore, and Gabriele Fragasso	51
Impact of Salt Intake on the Pathogenesis and Treatmentof HypertensionPetra Rust and Cem Ekmekcioglu	61
Principles of Blood Pressure Measurement – Current Techniques, Office vs Ambulatory Blood Pressure Measurement Annina S. Vischer and Thilo Burkard	85
Blood Pressure Self-Measurement	97
Ambulatory Blood Pressure Monitoring in the Diagnosisand Treatment of HypertensionMd. Shahidul Islam	109
Treatment of Hypertension: Which Goal for Which Patient? Faiçal Jarraya	117
Adherence to Treatment in Hypertension Carlos Menéndez Villalva, Xosé Luís López Alvarez-Muiño, Trinidad Gamarra Mondelo, Alfonso Alonso Fachado, and Joaquín Cubiella Fernández	129

The Role of Beta-Blockers in the Treatment of Hypertension John M. Cruickshank	149
Challenges in the Management of Hypertension in Older	
Populations	167
Resistant Hypertension Debbie Valsan, Umber Burhan, and Geoffrey Teehan	181
Renal Ultrasound (and Doppler Sonography) in Hypertension:An UpdateMaria Boddi	191
Atherosclerotic Renal Artery Stenosis Robert Schoepe, Stephen McQuillan, Debbie Valsan, and Geoffrey Teehan	209
Endocrine Hypertension: A Practical Approach	215
Phaeochromocytoma and Paraganglioma P.T. Kavinga Gunawardane and Ashley Grossman	239
Renal Denervation	261
Subclinical Kidney Damage in Hypertensive Patients:A Renal Window Opened on the CardiovascularSystem. Focus on MicroalbuminuriaGiuseppe Mulè, Antonella Castiglia, Claudia Cusumano,Emilia Scaduto, Giulio Geraci, Dario Altieri, Epifanio Di Natale,Onofrio Cacciatore, Giovanni Cerasola, and Santina Cottone	279
Hypertension in Chronic Kidney Disease	307
Hypertension in the Hemodialysis Patient	327
Unique Considerations When Managing Hypertension in the Transplant Patient Donald Mitema and Carrie Schinstock	341
Evidence-Based Revised View of the Pathophysiology of Preeclampsia Asif Ahmed, Homira Rezai, and Sophie Broadway-Stringer	355
Hypertension in Pregnancy Roopa Malik and Viral Kumar	375
Chronic Hypertension and Pregnancy	395

Superimposed Preeclampsia	409
Hypertension Is a Risk Factor for Several Types of HeartDisease: Review of Prospective StudiesYoshihiro Kokubo and Chisa Matsumoto	419
The Relationship Between Aortic Root Size and Hypertension: An Unsolved Conundrum Giuseppe Mulè, Emilio Nardi, Massimiliano Morreale, Antonella Castiglia, Giulio Geraci, Dario Altieri, Valentina Cacciatore, Margherita Schillaci, Francesco Vaccaro, and Santina Cottone	427
Treating Hypertension to Prevent Cognitive Decline and Dementia: Re-Opening the Debate	447
Measurement of Arterial Stiffness: A Novel Tool of Risk Stratification in Hypertension	475
Primordial Prevention of Cardiometabolic Risk in Childhood Meryem A. Tanrikulu, Mehmet Agirbasli, and Gerald Berenson	489
Emotional Stress as a Risk for Hypertension in Sub-Saharan Africans: Are We Ignoring the Odds? Leoné Malan and Nico T. Malan	497
Endothelial Dysfunction and Hypertension	511
Cerebellar Adrenomedullinergic System. Role in Cardiovascular Regulation Leticia Figueira and Anita Israel	541
Recent Advances in the Genetics of Hypertension Loo Keat Wei, Anthony Au, Lai Kuan Teh, and Huey Shi Lye	561
The Role of DNA Methylation in Hypertension	583
Metabolomics, Lipidomics and Pharmacometabolomics of Human Hypertension	599
Index	615