

Contents

Preface	xi
Contributors	xiii

SECTION 1: Background, History, and Epidemiology

1. Epidemiology of Hypertension	1
<i>Renata Cifková</i>	
2. The Total Cardiovascular Risk	13
<i>Claudio Borghi, Arrigo Francesco Giuseppe Cicero, and Ettore Ambrosioni</i>	

SECTION 2: Associated Risk Factors

3. Classical and New Risk Factors	21
<i>Manolis S. Kallistratos and Athanasios J. Manolis</i>	
4. Pulse Pressure as a Cardiovascular Risk Factor	29
<i>Athanase Benetos</i>	
5. Clinical Significance of High Heart Rate in Hypertension	35
<i>Paolo Palatini and Guido Grassi</i>	
6. Obesity and Obstructive Sleep Apnea	47
<i>Marzena Chrostowska, Anna Szyndler, Jacek Wolf, and Krzysztof Narkiewicz</i>	
7. Diabetes Mellitus	61
<i>Peter M. Nilsson</i>	
8. Stress-Related, Psychosocial, and Other Risk Factors in the Hypertensive Patient	67
<i>Philippe van de Borne</i>	

9.	Blood Pressure Variability: Methodological Aspects, Physiology, and Clinical Implications	73
	<i>Gianfranco Parati, Juan Eugenio Ochoa, and Grzegorz Bilo</i>	

10.	Antihypertensive Treatment Strategies	93
	<i>Giuseppe Mancia and Peter A. van Zwieten</i>	

SECTION 3: Etiological and Pathophysiological Aspects

11.	Hemodynamics of Hypertension	101
	<i>Per Omvik and Per Lund-Johansen</i>	

12.	Genetic Basis of Blood Pressure and Hypertension	115
	<i>Sandosh Padmanabhan, Mark Caulfield, and Anna F. Dominiczak</i>	

13.	Structural Cardiovascular Changes in Hypertension	129
	<i>Harry A.J. Struijker-Boudier</i>	

14.	Impaired Autonomic Cardiovascular Control in Hypertension	135
	<i>Guido Grassi, Gianmaria Brambilla, Raffaella Dell'Oro, and Gino Seravalle</i>	

15.	The Renin–Angiotensin–Aldosterone System	141
	<i>Ulrike M. Steckelings and Thomas Unger</i>	

16.	Etiological and Pathophysiological Aspects of Hypertension: Other Humoral–Endocrine Factors	149
	<i>Michel Burnier</i>	

SECTION 4: Target Organ Damage: Measurements/Clinical Importance

17.	Cardiac Damage and Progression to Heart Failure	159
	<i>E. Agabiti Rosei, M.L. Muiesan, and R.E. Schmieder</i>	

18.	Brain Damage	177
	<i>Cristina Sierra and Antonio Coca</i>	

19.	Large Artery Damage: Measurement and Clinical Importance	191
	<i>Stéphane Laurent and Michel E. Safar</i>	

20.	Small Artery Structure and Function in Hypertension	203
	<i>Anthony M. Heagerty, Sarah B. Withers, Ashley S. Izzard, Adam S. Greenstein, and Reza Aghamohammadzadeh</i>	

21.	Endothelial Damage: Measurement and Clinical Importance	211
	<i>Lorenzo Ghiadoni, Agostino Virdis, and Stefano Taddei</i>	
22.	Renal Damage and Hypertension: Mechanisms of Renal End-Organ Damage	223
	<i>Hermann Haller</i>	
23.	Retinal Changes in Hypertension	229
	<i>Martin Ritt, Enrico Agabiti-Rosei, and Roland E. Schmieder</i>	

SECTION 5: BP Measurements and Other Diagnostic Procedures

24.	BP Measurements and Other Diagnostic Procedures	237
	<i>Jean-Philippe Baguet, Jean-Michel Mallion, and Denis L. Clement</i>	
25.	Blood Pressure Response to Acute Physical and Mental Stress	249
	<i>Robert Fagard and Guido Grassi</i>	
26.	Central Blood Pressure	257
	<i>Cristina Giannattasio and Stéphane Laurent</i>	
27.	The Diagnostic Approach in Uncomplicated and Complicated Hypertension	269
	<i>Athanasios J. Manolis and Costas Tsioufis</i>	

SECTION 6: Therapeutic Aspects

28.	Blood Pressure Targets of Antihypertensive Treatment	277
	<i>Giuseppe Mancia and Guido Grassi</i>	
29.	Interventional Trials in Hypertension: What Have We Learned and What Remains to Be Learned?	283
	<i>Alberto Zanchetti</i>	
30.	The Nephroprotective Effect of Antihypertensive Treatment	293
	<i>Luis M. Ruilope and Julian Segura</i>	
31.	Nonpharmacological Interventions	299
	<i>Stefan Engeli and Jens Jordan</i>	
32.	Medical Treatment of Hypertension: Monotherapy and Combination Therapy	309
	<i>M. Burnier, G. Wuerzner, and B. Waeber</i>	

33.	Emerging Antihypertensive Drugs	319
	<i>Massimo Volpe and Giuliano Tocci</i>	
34.	The Polypill	329
	<i>Marie Briet and Michel Azizi</i>	
35.	Invasive Procedures	337
	<i>Roland E. Schmieder</i>	

SECTION 7: Special Conditions

36.	Clinical Management of Patients Presenting with Hypertension and Peripheral Artery Disease	351
	<i>Denis L. Clement</i>	
37.	Resistant and Malignant Hypertension	357
	<i>Josep Redon, Fernando Martinez, and Gernot Pichtler</i>	
38.	Hypertensive Emergencies and Urgencies	367
	<i>Cesare Cuspidi and Achille C. Pessina</i>	
39.	Secondary Hypertension: Diagnosis and Treatment	373
	<i>Peter W. de Leeuw</i>	
40.	Hypertension in Diabetes Mellitus	383
	<i>Peter M. Nilsson</i>	
41.	Hypertension in Children and Adolescents	395
	<i>Empar Lurbe</i>	
42.	Hypertension in Pregnancy	405
	<i>Renata Cifková</i>	
43.	Posttransplant Hypertension	415
	<i>Martin Hausberg and Karl Heinz Rahn</i>	
44.	Hypertension in Patients with Renal Parenchymal Disease, Chronic Renal Failure, and Chronic Dialysis	423
	<i>Jose L. Rodicio and Jose A. García-Donaire</i>	
45.	The Metabolic Syndrome in Hypertension	433
	<i>Josep Redon, Fernando Martinez, and Maria Jose Fabia</i>	
46.	White-Coat and Masked Hypertension	443
	<i>Robert Fagard</i>	
47.	Secondary Prevention of Stroke	449
	<i>Miguel Camafort, Monica Doménech, and Antonio Coca</i>	

48.	Hypertension and Atrial Fibrillation: Modern Epidemiologic, Pathophysiologic, and Therapeutic Aspects <i>Athanasios J. Manolis, Leonidas E. Poulimenos, and John B. Kostis</i>	457
49.	Management of Perioperative Hypertension <i>Paul E. Marik</i>	467

SECTION 8: Economic and Organizational Issues

50.	Pharmacoeconomic and Cost–Benefit Aspects <i>Ettore Ambrosioni and Claudio Borghi</i>	473
51.	How to Organize and Run a Hypertension Center <i>Csaba Farsang and Margus Viigimaa</i>	479

SECTION 9: Current Problems

52.	Blood Pressure Control in Europe <i>Bernard Waeber, François Feihl, and Giuseppe Mancia</i>	483
53.	Hypertension in the Very Elderly <i>Nigel S. Beckett</i>	497
54.	Hypertension in Acute Stroke <i>Terence J. Quinn, John A. Goodfellow, and John L. Reid</i>	511
55.	Cardiovascular Risk of Nonsteroidal Anti-Inflammatory Drugs <i>Csaba Farsang</i>	525
56.	Compliance to Treatment in Hypertension <i>Serap Erdine and Margus Viigimaa</i>	529
57.	Antihypertensive Treatment in Patients with Heart Failure <i>Nisha B. Mistry, Sverre E. Kjeldsen, and Arne S. Westheim</i>	537
58.	Residual Risk and Resistance to the Benefits of Antihypertensive Treatment <i>Alberto Zanchetti</i>	543
59.	A Commentary on The 2013 ESH/ESC Guidelines for the Management of Arterial Hypertension <i>Michael A. Weber</i>	553