
Updates in Hypertension and Cardiovascular Protection

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The aim of this series is to provide informative updates on both the knowledge and the clinical management of a disease that, if uncontrolled, can very seriously damage the human body and is still among the leading causes of death worldwide. Although hypertension is associated mainly with cardiovascular, endocrine, and renal disorders, it is highly relevant to a wide range of medical specialties and fields – from family medicine to physiology, genetics, and pharmacology. The topics addressed by volumes in the series *Updates in Hypertension and Cardiovascular Protection* have been selected for their broad significance and will be of interest to all who are involved with this disease, whether residents, fellows, practitioners, or researchers.

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Prehypertension and Cardiometabolic Syndrome



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Foreword

This book aims to give information on several pathophysiological and clinical aspects related to the concept of prehypertension. Although the definition of prehypertension in guidelines may be somewhat different, a large amount of clinical and epidemiological data indicates that individuals, not taking antihypertensive treatment, with systolic/diastolic blood pressure slightly below 140/90 mmHg, are at increased risk for sustained hypertension and cardiovascular diseases. The book will provide an up-to-date overview on epidemiological studies supporting the high risk for developing not only hypertension but also organ damage. Information is given on the relation between prehypertension and structural and functional changes in the heart as well as in the large and small arteries, with evidence of increased left ventricular mass, arteriosclerotic changes, and remodeling of small arteries, thus leading to increased cardiovascular and renal events risk. Prehypertensive subjects often present also additional cardiovascular risk factors. The evidence from recent studies supports the rationale for treating prehypertensives not only with lifestyle modification but also with antihypertensive medications, especially those with high normal blood pressure and high–very high cardiovascular risk. The book will be of great use to all researchers and practitioners interested in the prevention and treatment of hypertension, which represents a fundamental step in the reduction of the large cardiovascular disease burden worldwide.

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Preface

Prehypertension is identified as the blood pressure range from 120/80 to 139/89 mmHg, although its definition has frequently changed over the years with the changing subdivision of the blood pressure spectrum from the lowest to the highest values. The importance of prehypertension for research as well as for public health has long been appreciated for a variety of important reasons. First, within this blood pressure range lays a large fraction of the population. Second, compared to lower blood pressure values, prehypertensive individuals more frequently exhibit also overweight or obesity, glucose intolerance, and dyslipidemias, which make prehypertension an extremely frequent, if not a regular, component of the metabolic syndrome. Third, this clustering of risk factors makes the cardiovascular risk of prehypertension substantially higher than that of individuals with optimal blood pressure values, the risk being made, in many cases, greater by the presence of incipient or even more advanced asymptomatic damage of the heart, the kidney, and the large and small arteries. Finally, prehypertension owes its name to the high probability of a progression of the blood pressure values to a frank hypertensive condition, a phenomenon so frequent as to allow, from the middle age on, most prehypertensives to predict for themselves a hypertensive future. All this makes this condition important for investigating the factors that initially cause the cardiovascular alterations as well as the specific and interactive hemodynamic and metabolic mechanisms participating in the dynamic process that leads to the progressive elevation of blood pressure and organ damage. It is also an especially good setting to test lifestyle or drug-based strategies to effectively prevent this process, with benefits potentially much greater than those offered by later interventions, when the damage is established and likely to be at least in part irreversible.

This book provides a series of chapters on the most recent pathophysiological, epidemiological, diagnostic, and therapeutic research in the prehypertension area, written by a number of well-known experts. We hope this will be of interest to both clinicians and investigators, the former to update their information on the status of evidence-based prevention and treatment strategies in this cardiovascular area and the latter for even more clearly focusing on the gaps in knowledge and device means to fill them by appropriate investigations.

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