Kidney and Blood Pressure Regulation
Contributions to Nephrology
Vol. 143

Series Editor

Claudio Ronco   Vicenza
Kidney and Blood Pressure Regulation

Volume Editors

Hiromichi Suzuki  Saitama
Takao Saruta  Tokyo

37 figures and 8 tables, 2004
Contents

VII Preface
Suzuki, H. (Saitama); Saruta, T. (Tokyo)

1 An Overview of Blood Pressure Regulation Associated with the Kidney
Suzuki, H. (Saitama); Saruta, T. (Tokyo)

16 Salt, Blood Pressure, and Kidney
Fujita, T.; Ando, K. (Tokyo)

32 Involvement of Renal Sympathetic Nerve in Pathogenesis of Hypertension

46 Blood Pressure Regulation and Renal Microcirculation
Takenaka, T.; Hayashi, K.; Ikenaga, H. (Saitama)

65 Role of Renal Eicosanoids in the Control of Intraglomerular and Systemic Blood Pressure during Development of Hypertension
Arima, S.; Ito, S. (Sendai)

77 Novel Aspects of the Renal Renin-Angiotensin System: Angiotensin-(1–7), ACE2 and Blood Pressure Regulation
Chappell, M.C. (Winston-Salem, N.C.); Modrall, J.G. (Dallas, Tex.); Diz, D.I.; Ferrario, C.M. (Winston-Salem, N.C.)
90 Role of Aldosterone Blockade in the Management of Hypertension and Cardiovascular Disease
Epstein, M. (Miami, Fla.)

105 Clinical Implications of Blockade of the Renin-Angiotensin System in Management of Hypertension
Chua, D.Y.; Bakris, G.L. (Chicago, Ill.)

117 Renal Renin-Angiotensin System
Ichihara, A. (Tokyo); Kobori, H. (New Orleans, La.); Nishiyama, A. (Kagawa); Navar, L.G. (New Orleans, La.)

131 Kidney and Blood Pressure Regulation
Kalil, R.S.; Hunsicker, L.G. (Iowa City, Iowa)

145 Clinical Strategy for the Treatment of Hypertension in Non-Diabetic and Diabetic Nephropathy in Japan
Kanno, Y.; Okada, H.; Nakamoto, H.; Suzuki, H. (Saitama)

159 Angiotensin Type 1 Receptor Blockers in Chronic Kidney Disease
Suzuki, H. (Saitama)

167 Author Index

168 Subject Index
This book attempts to integrate the progress in the physiological aspects of blood pressure regulation mechanisms related to the kidney. With this in mind, we tried to collect a series of original contributions from leading experts in the field. The continuous evolution of techniques and biomedical aspects has overall led to significant progress; however, in recent years, major concerns have been expressed about gene target research. Therefore, molecules of different origin and nature are investigated from various aspects and a number of particles are hardly integrated. In contrast to these developments in molecular biology, many large-scale clinical trials investigating the effects of antihypertensive drugs on cardiovascular events have been and are at present being carried out, and these results are not always consistent. Between these two extremes – gene-targeted science and large-scale clinical trials – the exact mechanisms behind the pathophysiological process of renal disease have been investigated. It is likely that a combination of metabolic and hemodynamic abnormalities explain the progression of renal diseases. Clearly, mechanisms related to the response to blood pressure elevation are important as is the possibility that the metabolic and hemodynamic pathway is inhibited. This has been a greater challenge than we originally envisaged, not least of all because there has recently been an explosion of interest in blood pressure regulation in the kidney. This challenge has been admirably met by the international panel of authors who agreed to contribute to this book. Their contributions are outstanding.

We acknowledge that the wisdom is theirs and the mistakes are ours. Needless to say, this book does not provide all of the answers to the clinical as well as basic challenges faced by those specialists who work in this field of...
hypertension and the kidney, but we hope it does provide a solid foundation from which to move forward and tackle one of the most important relations between blood pressure regulation and the kidney. Obviously, much work still needs to be done and one of the intentions of this book is to stimulate further research in this area where so many subdisciplines of medical science are involved – from the extremes of genetic and molecular biology to clinical and pharmacological research trials.

We wish to express our appreciation to our many associates and colleagues who, in their particular fields, have helped us with constructive criticism and helpful suggestions. This book could not have been produced without the dedicated help of our co-workers in the editorial offices of the individual editions. Finally, we continue to be indebted to the staff of Karger Publishers.

Hiromichi Suzuki
Takao Saruta