Book Reviews

Kyuzo Aoki, Edward D. Frohlich (eds) Calcium in Essential Hypertension

The title of this comprehensive volume covering almost 700 pages corresponds less well with its contents. Thus, a more appropriate title would be ‘Calcium in experimental hypertension and calcium antagonists for treatment of human hypertension’. Actually, calcium handling in the human being is not touched on at all in spite of the fact, that e.g. hyper-parathyroidism is characterized by an increased incidence of arterial hypertension parallel to the disturbance in calcium metabolism.

The book may primarily be considered as a forum for Dr. Kyuzo Aoki of the Nagoya City University Medical School for reviewing his extensive research with the spontaneously hypertensive rat, originally bred by him and Prof. Kozo Okamoto, and for presenting his models for the etiology and classification of human arterial hypertension. Aoki is thus the only author or coauthor to 9 of the book’s 28 chapters. In Aoki’s so-called three-way classification of human hypertension, his concept is that type 1 is essential (major gene, arterial smooth muscle), type 2 is environmental (accessory gene with environmental factor) and type 3 is disease (nongene) hypertension. In the last chapter of the book, Aoki once again returns to this classification and concludes, that his hypothesis for the hypertension mechanism, called ‘the calcium membrane theory of essential hypertension’, infers defective calcium handling of the cell membrane and sarcoplasmic reticulum causing a rise in the calcium concentration in the cytosol of arterial muscles.

Dr. Edward D. Frohlich’s main contribution is a chapter on ‘Hemodynamic Effects of Calcium Antagonists in Spontaneously Hypertensive Rats and Essential Hypertensive Man’ written together with Dr. Isshiki, also he active at the Alton Ochsner Medical Foundation in New Orleans. The hemodynamics of human hypertension, untreated and under the influence of calcium antagonists, are also reviewed in several chapters by Dr. Aoki and associates as well as Dr. Lund-Johansen of Norway. A certain overlapping is unavoidable and makes the reading somewhat repetitive.

This becomes even more evident in the chapters on the clinical use of calcium antagonists written by Drs. Reid and Elliott and Dr. Doyle, respectively, where a better editorial coordination could have been of value. The extensive reference lists ought, however, to be appreciated.

Probably, the most rewarding parts of the book are sections II to IV which thoroughly treat the experimental effects of the calcium ion on the arterial muscle and the influence of agonists and antagonists on calcium channels.

In conclusion, the book will primarily be of interest and value to basic scientists and investigators concerned with experimental hypertension, who want to widen their view to include also the human aspects of calcium antagonists.

Rune Sannerstedt, Göteborg
G.K. von Schulthess
Morphology and Function in MRI
The author has tailored this book to his expertise: the combination of physics and cardiology and renal imaging. There are chapters on the physics of MRI, functional aspects of the cardiovascular system, motion and flow characteristics, cardiovascular morphology and renal morphology and function. This book is short (only 144 pages cover to cover) but contains a wealth of information for those who are sophisticated enough to follow it.
The chapter on the physics of magnetic resonance imaging is well organized and to the point. However, there are some small typographical errors in the equations and descriptions of the equations which detract from the message. In addition, the technical information is too much for the average physician and not enough for the person with a knowledge of physics and math. Although this type of chapter is difficult to write, it might have been better to gear it to those with less knowledge of physics and math, i.e. the clinician, because this is the audience the authors appear to be trying to reach.
The chapters on medical imaging are generally concise and informative. However, the figure legends are often difficult to interpret, at times because of mislabelling. The images are of varying quality, which reflects the improvements in imaging techniques over time.
In summary, this is another of the many texts which are being published concerning the innovative field of medical imaging. It provides informative discussions for both the sophisticated and novice alike.


be of particular value to the cardiovascular surgeon. The text is highly readable, and the case reports and illustrations (including both the artwork and the X-ray photos) are excellent. The book is also a handy size. The list of references may be somewhat more extensive than necessary, but it will provide a convenient source for surgeons who wish to report their own individual experience.
‘Cardiothoracic trauma’ should be of interest not only to cardiothoracic surgeons and practitioners of emergency medicine but also to other health care personnel (nurses, residents, medical students, etc.) who are concerned with accident victims. Indeed, the subject matter should become increasingly crucial as technology continues to furnish society with more refined methods of both hurting and healing itself.

Denton A. Cooley, Houston, Tex.

Panagiotis N. Symbas Cardiothoracic Trauma
As the introduction points out, trauma is the third leading cause of death in the United States. It strikes persons of all ages and lifestyles – not always singling out one person alone, but often affecting several at one blow. With similar ease, it strikes the young and old, the healthy and unhealthy, making us all equally vulnerable. Therefore, trauma seems more random and universal than heart disease and cancer, the other leading causes of death; unlike them, it relies not on the victim’s bodily processes but on unpredictable external forces, including both those of man’s devising and those of Nature herself. Trauma is probably the
most ancient destroyer of man. It can assume innumerable disguises, can come from any direction, and can turn otherwise benign aspects of our world into fierce and implacable foes. Cardiothoracic trauma is particularly devastating because so many vital structures are at risk. Therefore, emergency treatment must generally be rapid and aggressive, and the surgeon must be prepared to make crucial decisions, based on sound judgment, without excessive deliberation.

Dr. Symbas’s book promises to be a valuable help in this regard. It uses a systematic approach that considers each organ in the chest. There is special emphasis on blunt trauma (cardiac and aortic), which should

T. Elbert, W. Langosch, A. Steptoe, D. Vaitl (eds.)

Behavioural Medicine in Cardiovascular Disorders

Several of the contributors to this volume participated in the 1985 Annual Meeting of the European Association of Behaviour Therapy (EABT), Munich, FRG. There, the suggestion was made to assemble in a single volume recent cardiovascular research relevant to behavioural medicine. Consequently, the book emphasizes European research. The scope of the volume has, however, been expanded considerably to take account of exciting developments in behavioural research on cardiovascular disorders from other parts of the world. The contributions have been divided into four sections reflecting four growth areas, and these are concerned with psychophysiological aspects of essential hypertension, behavioural management of hypertension, prevention and rehabilitation of coronary heart disease, and behavioural aspects of cardiac arrhythmia and related problems.

The authors hope that this collection will stimulate further research in the field of behavioural medicine. After reading this book as a preventive cardiologist, this hope seems to me too modest. The lecture is fascinating for each doctor interested in a really comprehensive cardiac care and an ecological approach to medicine for the benefit of his patients. The lecture is facilitated by the introduction of each chapter that outlines the issues considered. Max Halhuber, Bad Berleburg

F. Hammersen, K. Messmer Ischemia and Reperfusion
Progress in Applied Microcirculation, vol. 13
Karger, Basel 1989
X+ 134 pp., 51 fig., 4 tab., soft
SFr. 67.-/DM 80.-/US$ 44.75/E 30.50
ISBN 3-8055-4977-6

This volume, which represents the proceedings of the 7th Bodensee Symposium on Microcirculation, is an eclectic collection of articles with titles that include: The ultrastructure of microvessels and their contents following ischemia and reperfusion; Ischemic brain edema, and A possible role for free radicals and tissue injury during myocardial ischemia and reperfusion. These chapters emphasize the metabolic and ultrastructural aspects of the detrimental effects of ischemia on blood vessel function and morphology. The text is a useful update in this fast moving field
Arnold M. Katz, Farmington, Conn.
Harisios Boudoulas, Charles F. Wooley (eds) Mitral Valve Prolapse and the Mitral Valve Prolapse Syndrome
Futura, Mount Kisco 1988 XIV + 673 pp.; US$ 80.00 ISBN 0-87993-319-4
On almost 670 pages 42 experts on mitral valve prolapse cover all imaginable aspects of this condition. A brilliant description of the morphology of the floppy mitral valve in comparison to the normal mitral valve has been edited by pathologists from four independent centers and is most beautifully illustrated.
Physiological aspects of mitral valve prolapse, its inheritance and association to other disorders, its prevalence and classification are the topics of several contributions. An important section of the book deals with clinical presentation, diagnostic evaluation, natural history and with the therapeutic management of mitral valve prolapse syndrome. Associated autonomic dysfunction, endocrine disorders, platelet abnormalities and anxiety disorders are dealt with by numerous authors, who sometimes take controversial standpoints.
A review on associated arrhythmias or sudden death reflects more agreement of opinion.
Finally special topics such as pregnancy, athletics, aviation and life insurance on patients with mitral prolapse are addressed. Different aspects of prolapsing mitral valves are not yet settled but others are well understood. This is most beautifully presented in this book giving the state of the art in mitral valve prolapse. Moreover an overwhelming number of publications cited in the text gives readily access to the original contributions.
Some chapters are edited with brilliant expertise while others appear less elaborated, but on the whole, this extensive volume will be most welcome to all interested in one of the many aspects of mitral valve prolapse syndrome.
Martin Rothlin, Zurich
Franz H. Messerli (ed.)
The Heart and Hypertension
Yorke Medical Books (Cahners Publ. Co.)
New York 1988
XX+482 pp.; US$52.95
ISBN 0-914316-45-1
Dr. Franz H. Messerli of the Alton Ochsner Medical Foundation in New Orleans has succeeded to surround himself as editor with an almost complete gallery of the most distinguished scientists from all over the world. Together, they have compiled an extensive review and analysis of our current knowledge on the heart and hypertension.
Very appropriately, the book has been dedicated to the late Dr. Robert C. Tarazi of the Cleveland Clinic Foundation, who for many years was a leader in the field. Bob Tarazi contributes to the volume with a chapter on ‘Regression of Left Ventricular Hypertrophy by Medical Treatment: Present Status and Possible Implications’ – one of his favourite topics for a number of years.
The seven parts of the book contain no less than altogether 45 chapters, all of them generally speaking well written and of high quality. However, with full respect for the high standard of the contributions it
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has not been possible for all authors to cope with one factor of primary importance – the flight of time. Naturally, this dilemma becomes most evident, where the development in recent years has been especially rapid and abundant. One example of this is the use of echo techniques for assessing left ventricular function; the references given in the two basic contributions by Drs. Daniel D. Savage and Nathaniel Reichek entitled ‘Prevalence and Evolution of Echo Left Ventricular Hypertrophy’ and ‘Echo Assessment of Left Ventricular Structure and Function in Hypertension: Methodology’, respectively, all stem from 1983 or earlier. On the contrary, one may find contributions, where retrospective historical aspects make the references timeless, for example the chapter on ‘Cardiovascular Effects of Autonomic Blockade’ where Dr. Edward D. Freis relates his experiences with hexamethonium (C6) in the fifties.

Some semi-forgotten concepts are also brushed up, such as the ‘Hyperdynamic Beta-Adrenergic Circulatory State’ originally launched by Dr. Edward D. Frohlich and co-workers in the sixties and now highlighted by him once again. The very last chapter of the book carries a most unusual list of authors headed by Dr. Vincent De-Quattro of the USC School of Medicine in Los Angeles followed by no less than nine Russian researchers from the Myasnikov Institute of Clinical Cardiology in Moscow, who jointly present their positive results on ‘Reduction of Sympathetic Tone and Myocardial Hypertrophy in Hypertensive Patients after Relaxation Therapy’.

This fascinating and unconventional study comes at the end of an interesting book, that can be warmly recommended to physicians, cardiologists, or investigators ‘who would like to deepen their understanding of cardiac involvement in hypertension and of progression as well as regression of left ventricular hypertrophy, and the heart’s structural and functional response to various blood-pressure lowering agents’ as stated by the editor in his preface.

Rune Sannerstedt, Göteborg