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Cardiac Arrhythmias

From Basic Mechanism to State-of-the-Art Management

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This book is dedicated to my family, Gabriela, David, Victoria, and Peter, for their love and support; to all the current and future professionals of arrhythmias for whom this book was written; Additional thanks to Dr. Lucian Gheorghe, Dr. Vasile Murgu, Dr. Ionel Droc, Dr. Mocanu Iancu, Dr. Vasile Greere, Dr. Daniel Nita, Dr. Adela Cirstea, Dr. Gabriel Cristian. Special thanks are owed to Dr. Blanca Calinescu, Dr. Chantal Trudeau, Dr Jenica Roates, Associate Professor Liviu Chiriac, Professors Alexandru Campeanu, Tiberiu Nanea, and Ion C. Ţintoiu, for their guardianship, friendship and support through the good and bad times. I am eternally grateful to all Editors of this book who actively participated with me to realize this Edition.

Ambrose S. Kibos, MD, PhD

Foreword

The field of cardiac arrhythmias has had a remarkable and light-speed progress in the past two decades. From being the Cinderella of Cardiology and practiced in dark damp basements in many institutions around the world, this field is now at the forefront of every cardiology division. Similarly the progress in understanding the mechanisms, anatomy, diagnosis, and treatment of all different forms of cardiac arrhythmias has been overwhelming in the past decade. The twenty-first-century cardiac electrophysiologist has to a possess a large bulk of knowledge in this field and is confronted with the challenge of staying updated at the millisecond pace in which new developments occur, a fate rarely seen in other subspecialties. For this reason this first edition of *Cardiac Arrhythmias: From Basic Mechanism to State-of-the-Art Management* encompasses one of the most comprehensive updated textbooks available to date. In its four sections this multiauthored international compilation brightly reviews the anatomy of arrhythmias, diagnostic methods, and diseases associated with arrhythmias and treatment of all forms of cardiac arrhythmias with lavishly illustrated and ample discussions on the most modern ablation and mapping techniques available to date. Similarly the field of devices in the management of cardiac arrhythmias is superbly reviewed. This new textbook adds to the field of cardiac arrhythmias a new and fresh perspective and should be useful not only for the trainee and new upcoming electrophysiologist but also for the seasoned one. This book should be on the shelves of all cardiac arrhythmia units around the globe as it is authored by a significant number of the most influential electrophysiologists in the field and presents a comprehensive and practical approach to cardiac arrhythmias.

Carlos A. Morillo, MD, FRCPC, FACC, FHRS, FESC

Preface

The past 50 years have witnessed the growth and evolution of clinical electrophysiology from a field whose initial goals were the understanding of arrhythmia mechanisms to one of significant therapeutic impact. The development and refinement of implantable devices and catheter ablation have made non-pharmacological therapy a treatment of choice for most arrhythmias encountered in clinical practice. The purpose of this book is to provide the "caring electrophysiologist" with an electrophysiologic approach to arrhythmias, which is predicted on the hypothesis that a better understanding of the mechanisms of arrhythmias will lead to more successful and rationally chosen therapy. As such, the techniques suggested to address these issues and specific therapeutic interventions employed represent a personal view on intuition, based on experiences of world renowned scientists. These include among others, Steve Fishberger, Vidal Essebag, Bradley Knight, G André Ng, Mauricio Scanavacca, Cheuk-Man Yu, Ion Ţintoiu and Mark Slevin.

Ambrose S. Kibos, MD, PhD

Letter from the Editors

Cardiac Arrhythmias: From Basic Mechanism to State-of-the-Art Management

The editors of this book had three primary objectives. The first objective was to develop an outline for a comprehensive, modern-era textbook on heart rhythm disorders that properly covered each of the major topics in the field – from basic mechanisms to state-of-the-art clinical management. Careful organization of the chapters and precise wording of each chapter title were important to ensure that critical issues were all addressed and presented in a logical fashion. The second goal was to appropriately select the best possible authors for each chapter. The ideal author for a book chapter is not just an expert in the field with recognized experience and authority, but is also someone who is able to effectively communicate the key teaching points for the topic, has excellent writing skills, and can reliably meet submission deadlines. It was critical that these two objectives were accomplished very early in the planning stages of the book to lay the groundwork for the contributors.

The third objective of the editors was to ensure that the finished product was of the best possible quality. Each chapter was thoroughly reviewed by at least one editor for both content and presentation. This can be a challenging task when the chapters are each written by different authors selected from all over the world, where English may not be the primary language and where books may have variable writing styles and formats. In addition, most of the chapters themselves were a product of collaboration among multiple authors who had to choreograph their work. Fortunately, we had the luxury of reviewing work from an outstanding international group of authors. This made our task enjoyable and educational.

Any multiauthored book that ventures to cover as many topics as are covered in this book will inevitably contain some redundancy. We felt that it was more important to allow each author to fully present his or her topic in a chapter that could stand alone, rather than to try and eliminate all redundant content.

We would like to thank each and every author for their effort and contribution and hope that you enjoy reading this book as much as each of the editors did when putting this collection together.

Chicago, IL, USA — Bradley P. Knight, MD, FACC, FHRS

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