

Preface

It is estimated that approximately 20 million people suffer from heart failure worldwide. Moreover, the prevalence of heart failure still tends to increase. A significant proportion of patients with this condition have normal left ventricular systolic function, as measured by the ejection fraction. It is believed that in these patients, heart failure is the result of diastolic dysfunction. This condition is, therefore, frequently referred to as diastolic heart failure.

While heart failure with impaired left ventricular systolic function has been extensively studied, patients with preserved systolic function have been grossly underinvestigated, and underlying mechanisms, diagnostic criteria, and definition have been controversial. More recently, however, we gained important new insights into pathophysiology and natural history of diastolic heart failure and we have a better understanding of how patients with this condition should be evaluated and managed.

This book is written to bring together in a clear and concise manner, the current knowledge about diastolic heart failure. It is written primarily for clinicians, and the aim has been to provide insights which will be useful in the daily care of heart failure patients. We also hope the book will be of interest to scientists involved in heart failure research.

The first chapters describe the essential physiology of left ventricular filling and the pathophysiology of diastolic heart failure. This includes the role of disturbances in myocardial relaxation, changes in myocardial compliance, chamber stiffness, and interactions with extraventricular structures, as well as the neurohormones. The diagnostic criteria are reviewed and we present an algorithm for a practical diagnostic work-up in patients with suspected diastolic heart failure. We explain how Doppler flow velocities in combination with tissue Doppler can be utilized to diagnose diastolic heart failure and to provide a noninvasive estimate of left ventricular filling pressure. Furthermore, we suggest how atrial natriuretic peptides may be utilized as a supplementary diagnostic tool.

Recent important data on epidemiology are presented, and challenges related to specific diseases are addressed, including hypertension, diabetes mellitus, cardiomyopathies, and pericardial disease. Finally, we review the therapeutic options and discuss different treatment strategies.

We are fortunate to have several leading experts in the field of diastolic function and diastolic heart failure as authors, and they are thanked for their

valuable contributions. This book is the first to give a comprehensive overview not only of the diastolic heart failure, but also of different aspects of left ventricular diastolic function in general. The aim of the authors was to summarize the existing knowledge on the role of diastolic dysfunction in heart failure, and also to identify the gaps in our understanding of the problem. We hope that the book will prove useful for both scientists and clinicians involved in research and clinical care of patients with heart failure.

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