

Joaquín S. Lucena · Pablo García-Pavía
M. Paz Suarez-Mier · Luis A. Alonso-Pulpon *Editors*

Clinico-Pathological Atlas of Cardiovascular Diseases



 Springer

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Foreword I

It is a pleasure and an honour to write these introductory lines for the ‘Clinico-pathological Atlas of cardiovascular disease’. The main purpose of this book is to contribute to the diffusion of the morphological findings in cardiovascular pathology among the several specialists who deal with the care of patients affected by cardiovascular diseases: cardiologists, cardiac surgeons, pathologists, forensic doctors, sports doctors, etc.

Cardiovascular diseases represent the main cause of death in the world, but paradoxically, the specialists who care for the patients affected by these diseases know little about the disease after the death of their patients. The significant explosion of imaging techniques and minimally invasive tests in clinical practice has perhaps given physicians a false feeling of already knowing the morphological aspect of the diseases they care for. Furthermore, the progressive decline in the number of autopsies performed at hospitals has undoubtedly helped little to change this tendency.

The present work manages to fill this gap through the coordinated endeavour of forensic pathologists throughout the Spanish territory and of cardiovascular specialists, the vast majority of whom come from the ‘Hospital Universitario Puerta de Hierro’. The directors of this work, Dr. Lucena (‘Instituto de Medicina Legal’ in Sevilla) and Dr. Suarez-Mier (‘Instituto Nacional de Toxicología y Ciencias Forenses’ in Madrid) on the side of the forensic pathologists, together with Dr. Garcia-Pavia and Prof. Alonso-Pulpón (Hospital Universitario Puerta de Hierro’. Madrid) on the clinicians’ side, have succeeded in involving numerous experts in diverse fields to assemble the best of both worlds in each chapter.

I would like to congratulate the editors and each of the authors for the excellent work done and the great enthusiasm that they have shown. I am convinced that this Atlas will contribute to the expansion of the morphological knowledge of cardiovascular pathology and will become a very important work for future generations of specialists that tackle these diseases both from the clinical and from the forensic side.

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Foreword II

Cardiovascular diseases represent the main cause of death for people of developed countries, and frequently they may account for premature fatal outcomes even in the apparently healthy young. The morbid entities are mostly structural, affecting the major components of the heart (aorta, pulmonary artery, pericardium, coronary arteries, myocardium, endocardium and conduction system). The mean age of humankind has increased by 6 years in the span of the last 30 years, and two-thirds of this gain in life expectancy are due to improvement in the diagnosis, therapy and prevention of cardiovascular diseases. Clearly, clinical diagnosis, surgical or interventional therapy and prevention are based on the knowledge of anatomy and pathology so that a post-mortem examination of fatal cases still plays a pivotal role.

This beautiful atlas of cardiovascular diseases is the result of a collaborative Spanish network of scholars in cardiovascular pathology. It includes gross and histological findings illustrated in a very professional manner. Acquired diseases are mostly considered even though relevant congenital anomalies are also covered.

The changing spectrum of cardiovascular pathology with surgical and device pathology is a significant part of this atlas. More than 600 colour illustrations with detailed legends render the atlas impressive.

The Editors of the book and the authors of the chapters should be congratulated. The interest in cardiovascular pathology, which has been scientifically neglected for years, is rising throughout the world, revitalizing a discipline which, in tight collaboration with clinicians, is giving major contributions to the fight against cardiac diseases and early death. The great advances in cardiovascular medicine, following the introduction of cardiac surgery and interventional cardiology, could have not been achieved without the precise knowledge of the structural basis of cardiac diseases in the light of the development of new imaging tools, like three-dimensional echocardiography, computed tomography, positron emission tomography and magnetic resonance, not only for a morpho-functional assessment of the heart and great vessels but also for in vivo tissue characterization.

Certainly, the obligation, in Spain, of forensic autopsy in any case of sudden death has fostered the interest in cardiovascular pathology, and the Spanish colleagues should be congratulated for their enthusiasm and the quality of their commitment.

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Preface

The paradigm of anatomico-clinical thinking in medical practice, introduced by Bichat (1771–1802, considered the father of modern pathological anatomy), presented the lesions in a tissue as a fundamental element in the diagnosis and physiology of a disease. Through the knowledge of the lesion, the physician should establish a relationship with the patient's signs and symptoms. This mainstream thinking remained in force throughout the first half of the twentieth century.

The understanding of the signs, symptoms and physiopathology of a disease could only be achieved by an accurate diagnosis of the originating histological lesion. It was logical, then, that the practice of necropsies in medical schools and hospitals was routine and mandatory. Diagnosis tools were emerging virtually in parallel at this time with the objective to obtain indirect signs of the causal lesion. Initially, these tools were very rudimentary such as the stethoscopes used, but their complexity progressively increased: X-rays (1895), computed tomography (1972) and magnetic resonance (1973), which, as known by everyone, had completely revolutionised medicine.

The degree of clinico-radiological correlation, including the fact that it is also possible to obtain tissue samples by guided puncture, is so high that the practice of clinical necropsies has been reduced to a minimum and has even been discarded by the hospital pathologist. Young medical doctors and current medical students are scarcely familiar with the macroscopic vision of different pathologies.

Today, we are witnessing a renaissance in cardiovascular pathology thanks to forensic medicine, given that sudden deaths (whose origin is cardiovascular in 80 % of cases) demand, according to Spanish laws and European Union guidelines, a legal autopsy. In Spain, it is estimated that 12.5 % of naturally occurring deaths are sudden deaths, which implies between 10,000 and 15,000 cases per year. Also, more than one half of legal autopsies performed in the Departments of Forensic Medicine are cases of natural deaths, and among them, sudden deaths constitute the most numerous group.

But as in other areas of Medicine or yet more, pathology has to walk alongside the clinic (cardiology) as it is almost impossible to establish an accurate diagnosis based only on morphology. The main purpose of this Atlas is to assemble the knowledge and points of view of two medical specialties, cardiology and forensic pathology, which, although apparently very remote from each other, must, however, converge in order to gain a better understanding of the disease.

This Atlas compiles, in 660 images distributed in 12 chapters, the spectrum of pathologies affecting the structures of the cardiovascular system (aorta, pulmonary vessels, coronary arteries, heart valves, myocardium, pericardium, cardiac conduction system, etc.), most frequently encountered in sudden cardiac deaths. It has been designed as a very practical book that includes a summary of clinical characteristics, many high-quality images and clear tables containing the main morphological characteristics of each disease. It is conceived as a first step in cardiovascular pathology diagnoses, and more comprehensive scientific references are offered in addition at the end of each chapter.

The coordinated work of forensic pathologists and histopathologists from one side and of cardiologists from the other has allowed the summation of these two separate worlds in each chapter to produce a work that, we hope, will be enjoyed by a wide range of specialists including cardiologists, forensic doctors, pathologists, sports doctors, etc.

We anticipate that the knowledge obtained from this Atlas will contribute not only to a better understanding of cardiovascular pathology but also to a better treatment of patients.

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We would like to give a special thank-you to the numerous forensic doctors who, understanding the importance of cardiovascular studies for legal autopsies, have granted us access to thousands of hearts, which has allowed us to compile a great deal of the material presented in this Atlas. Without their contribution, this book would have never seen the light.

And finally, a thank-you to our families for the constant support and infinite patience that they have endured during the time that we have dedicated to this work.

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