

Preface

Aortic aneurysms are increasingly common and often lethal in the aging population, making them among the leading causes of death in the United States. The incidence and prevalence of aortic disease is also increasing as life expectancy is extended. Aortic disease is often incidentally discovered when performing tests, such as ultrasonography or CT scans, for other disease processes. For this reason, it is important that physicians who deal with the aging population, such as cardiologists, are familiar with the diagnosis and management principles of aortic aneurysms. The lack of effective medical therapy makes timely surgical intervention the only viable treatment option for aortic aneurysms once they attain a certain diameter. Unfortunately, aortic aneurysms are clinically silent until patients present with catastrophic aortic rupture. Therefore, the detection of aortic aneurysms prior to rupture is critical as there is a large disparity in mortality between elective and emergent repair.

Until recently, treatment of aortic disease was primarily surgical, involving large incisions with the potential for large blood loss and life-threatening perioperative complications.

Although effective and durable, the surgical treatment of aortic aneurysms carries a relatively high mortality in this high-risk population, and is associated with prolonged convalescence and a delayed return to the preexisting level of quality of life. For these reasons, minimally invasive treatment of aortic aneurysms has become the most common therapeutic option for aortic aneurysms. During recent years, we have witnessed a progressive increase in the number of endovascular aortic repairs performed and significant technological improvements in stent graft design. The use of endovascular technology in the treatment of abdominal and thoracic-aortic pathology, in expert hands, can lower short-term mortality and morbidity. However, this comes at an increased cost because of both the cost of the stent grafts and the need for long-term serial imaging following endovascular repair of aneurysms.

This book, *Aortic Aneurysms: Pathogenesis and Treatment*, is part of the “Contemporary Cardiology” series. As cardiologists will be the caregivers for many patients with aortic aneurysms, the purpose of the book is to provide a concise and authoritative view of the current state of the management of these patients. The book focuses on aneurysms of the descending thoracic and abdominal aorta, and peripheral artery aneurysms, and does not include the ascending aorta or the aortic arch. While the initial chapters deal with such topics as genetics, inflammation, and the management of small aortic

aneurysms, the bulk of the book is meant to serve as a primer on clinical care, specifically on surgery for aortic aneurysms.

The treatment of aneurysms is a fast-evolving field. We are most grateful to all the authors for their expert and updated contributions. We hope the readers of this book and their patients will benefit from this work. We dedicate the book to the memory of Dr George Johnson Jr., a mentor to both of us.

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