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Navigating the Complexities of Geriatric Cardiology: Optimizing Cardiovascular Care for Aging Populations

Craig Rook*

Department of Medicine, New York University, USA

DESCRIPTION

As life expectancy continues to rise globally, the demographic landscape is undergoing a profound shift, with a growing proportion of individuals reaching advanced ages. With aging comes a higher prevalence of Cardiovascular Diseases (CVD), presenting unique challenges for healthcare providers. Geriatric cardiology, a specialized field within cardiovascular medicine, is dedicated to addressing the complex interplay between cardiovascular health and aging. In this article, we explore the unique aspects of geriatric cardiology, from epidemiology and pathophysiology to clinical management strategies tailored to older adults. Aging is associated with a myriad of physiological changes that impact the structure and function of the cardiovascular system. These changes include alterations in myocardial structure, such as increased collagen deposition and decreased myocardial elasticity, leading to diastolic dysfunction and impaired ventricular relaxation. Additionally, vascular remodeling, endothelial dysfunction, and arterial stiffening contribute to age-related hypertension, atherosclerosis, and increased susceptibility to ischemic heart disease. Furthermore, age-related changes in autonomic function, including decreased baroreflex sensitivity and impaired autonomic modulation of heart rate variability, predispose older adults to orthostatic hypotension, arrhythmias, and syncope. Such alterations in cardiac and vascular physiology underlie the heightened vulnerability of older adults to adverse cardiovascular events and complications. The epidemiology of cardiovascular diseases in the elderly presents a complex landscape shaped by a multitude of factors, including age-related comorbidities, socioeconomic disparities, and lifestyle factors. While coronary artery disease remains a leading cause of morbidity and mortality across all age groups, its presentation and management in older adults are often influenced by a higher burden of comorbidities, such as diabetes, chronic kidney disease, and frailty. Moreover, heart failure prevalence increases substantially with age, with older adults accounting for a disproportionate share of heart failure hospitalizations and healthcare expenditures. The interplay between age-related structural and functional changes in the heart, coupled with comorbidities and polypharmacy, poses significant challenges for the diagnosis and management of heart failure in the elderly population. Arrhythmias, particularly atrial fibrillation, are also more prevalent in older adults, contributing to an increased risk of stroke, heart failure, and mortality. Age-related alterations in atrial electrophysiology, coupled with comorbidities such as hypertension and valvular heart disease, underscore the importance of comprehensive arrhythmia management strategies tailored to the elderly. The clinical management of cardiovascular diseases in older adults necessitates a nuanced approach that considers the unique physiological, functional, and psychosocial characteristics of this population. Geriatric cardiology represents a dynamic and evolving field that addresses the unique cardiovascular health needs of older adults. By recognizing the intricate interplay between aging, cardiovascular physiology, and age-related comorbidities, healthcare providers can deliver tailored, evidence-based care that optimizes outcomes and enhances quality of life for aging populations. Through interdisciplinary collaboration, innovative technologies, and a patient-centered approach, geriatric cardiology continues to advance the frontiers of cardiovascular medicine, ensuring that older adults receive the comprehensive, compassionate care they deserve in an era of unprecedented longevity.

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CONFLICT OF INTEREST

The author's declared that they have no conflict of interest.

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Corresponding author Craig Rook, Department of Medicine, New York University, USA, E-mail: craigrook@nyumc.org

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