Editorial

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Heart failure (HF) is an especially important problem in the elderly (age ≥ 65 years) in North America and other developed countries. Improved medicine, public health, Medicare and socio-economic conditions in Western countries have extended lifespan. However, this increased longevity is associated with a parallel increase in morbidity due to heart failure. Understanding the biology of cardiovascular aging and its impact on the pathophysiology of HF is imperative. Recognizing that the aging process is associated with physiological as well as biochemical, molecular, cellular and extracellular changes is critical for development and discovery of novel targets and therapies pertinent to that growing segment of the population. This will ensure that elderly people can enjoy the extended lifespan and continue to contribute meaningfully to society if they so choose. Since the changes with aging are progressive and a host of cardiovascular risk factors damage the heart during aging, improving the lot of the elderly segment depends to some extent on the success of preventative measures in the young, beginning in early childhood.

This symposium issue of Heart Failure Reviews focuses on major issues pertinent to “Heart Failure in the Elderly”. In the lead article, Bodh Jugdutt addresses the implications of the changing demographics in the elderly. Justin Ezekowitz and Padma Kaul deal with epidemiological aspects and management of post-infarction HF. Wei Chen and Nikoloas Frangogiannis discuss aging-related changes

in inflammation and fibrosis during healing after cardiac injury and the role they play in adverse remodeling and HF. Guido de Meyer and colleagues address the role of autophagy in HF associated with aging and implications for HF therapy. Andrezj Janzowski and Edward Lakatta deal with age-related changes in sarcoplasmic reticulum Ca^{++} cycling in systolic and diastolic HF. Victoria Ballard discusses the potential of stem cells for repair and HF therapy in the aging heart. Ken Shinmura addresses the role of increased adiponectin in HF. Dipak Das and associates discuss resveratrol and red wine for heart health and longevity. Lisa Wong, Dirk van Velduisen and associates address age-related changes in telomere biology in relation to HF and discuss telomere shortening and activation of the renin-angiotensin-aldosterone system (RAAS) in HF. Mahipal Singh, Krishna Singh and associates discuss the role of osteopontin in post-infarct healing and age-related HF. David Ho, Steven Vatner and co-workers address β -adrenergic receptor signalling in HF and longevity and adenylyl cyclase type 5 as a potential target. Anwar Jelani and Bodh Jugdutt discuss ST-segment elevation myocardial infarction (STEMI) and HF in the elderly and emphasize the need for more research and clinical research data especially in the “older elderly” segment.

These articles provide the reader with a valuable resource on pertinent aspects of age-related changes in physiology, biochemistry and pathophysiology that impact HF management in the elderly. The reviews will give the reader a clearer appreciation of the need for more research on the biology of cardiovascular aging, more evidence-based clinical trial data on the “older-elderly” HF patients, and new therapies for HF with preserved ejection fraction as well as for HF with low ejection fraction. They point out that while longer life comes at a price, there is hope and potential for novel targets and therapies in the near future.

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