Asymptomatic Atherosclerosis

Pathophysiology, Detection and Treatment

Edited by

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Dedications and Acknowledgments

They say that dedicating a book is one of the most exquisite acts of love and generosity one can perform. I would agree, and would like to dedicate my efforts in realizing this book to the following:

To my father, Mohsen Naghavi, who grew up in a hardworking farmer family with 13 children who were fighting poverty and did not have the luxury of going to school. Nonetheless, he always inspired his children with stories of successful people and encouraged them to have great ambitions. He lived a difficult life as a bus driver, but brought up his 7 children to be thriving doctors, engineers, and teachers.

To my mother, Khadijeh Naghavi, whose countless sacrifices and never-ending patience have kept our family warm with love.

To my first mentors, Drs S. Ward Casscells and James T. Willerson, whose integrity and ingenuity taught me priceless lessons and enabled me to realize my “American Dream”.

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To my past and present associates, especially those I have not had a chance to thank and express my heartfelt appreciation.

And to you who will somehow be inspired by this book and its mission to eradicate heart attacks; you will become an important link in the long causal chain of heart attack eradication.

Do not doubt the cause; our mission is truly achievable.

Cheers to a heart attack-free future for mankind!

Houston, TX

Morteza Naghavi, MD
Preface

In the past century, preventive cardiology has been in a defensive mode. Since James Herrick first reported Clinical Features of Sudden Obstruction of the Coronary Artery Disease in JAMA 1912, and Paul Dudley White wrote the textbook of Heart Disease in 1930 and helped create cardiac care units, cardiovascular medicine for the most part has focused on the detection and treatment of symptomatic coronary artery disease. Although Dr. White recognized the importance of preventive cardiology by championing the Framingham Heart Study and establishing the American Heart Association, his dream of “mastering presenile atherosclerosis” is still unrealized. Over the past 50 years, the Framingham study defined the traditional cardiovascular risk factors of smoking, high serum cholesterol, high blood pressure, diabetes and lack of exercise, and the American Heart Association raised public awareness for early detection and treatment of these risk factors. However, atherosclerotic cardiovascular disease has remained the number one killer, diabetes and obesity have wildly increased, and out-of-hospital sudden cardiac deaths is still high and is increasing in women.

New multipronged preventive strategies must be adopted to address these failures, beginning with a change in mindset from a passive defensive to an active offensive mode. The war against sudden coronary death must be shifted from hospitals to homes, and from advanced cardiac care units to primary care offices. In making such a shift, we must walk the walk, as we talk the talk. Attention must shift from the less effective and more expensive treatment of symptomatic atherosclerosis to the early detection and aggressive treatment of asymptomatic atherosclerosis.

Existing risk factor based stratifications e.g., the Framingham Risk Score, have proven grossly inadequate, particularly in identifying the vulnerable patients who are at risk of a near term future event. The traditional methods must be replaced with the more accurate, yet underutilized, measures of subclinical atherosclerosis, notably coronary artery calcium scanning and carotid intima-media thickness measurement. Treatment of asymptomatic patients must be based on the severity of atherosclerosis regardless of the risk factors. The SHAPE initiative is an effort to move in this direction.

In this book, leading cardiovascular physicians and investigators present the latest developments that illuminate the path to translating Dr. White’s dream into reality. We must, and I believe we can, master asymptomatic atherosclerosis to accomplish the mission of eradicating heart attacks in the twenty-first century.

Houston, TX

Morteza Naghavi, MD
Since the landmark Framingham Heart Study introduced the concept of cardiovascular risk factors 50 years ago, the prediction and prevention of adverse cardiac events have been based primarily on the identification and treatment of these risk factors. Nonetheless, cardiovascular disease has remained the primary cause of mortality and morbidity in developed countries, and is rapidly increasing in the developing world. It is now obvious that new strategies, in addition to the traditional methods, are needed to fight the growing epidemic of atherosclerotic cardiovascular disease. In my view, early detection and treatment of high-risk asymptomatic atherosclerosis is a leading candidate to fulfill that role.

I would like to congratulate Dr. Naghavi and colleagues at the Society for Heart Attack Prevention and Eradication (SHAPE) for their pioneering efforts to advance the early detection and treatment of asymptomatic atherosclerosis. Despite the many challenges ahead, this is a worthy and timely effort that goes beyond traditional risk assessment, and has the potential to transform preventive cardiology. The driving passion and commitment of the members of the SHAPE Task Force is commendable; it serves as an example to all of us who are devoted to eradicating the epidemic of atherosclerotic cardiovascular disease particularly sudden heart attacks and strokes.

I am delighted to welcome “Asymptomatic Atherosclerosis” and look forward to its positive impacts on improving the knowledge and practice of preventive cardiology.

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