

Controlling Ischemic Cardiovascular Disease from Basic Mechanisms to Clinical Management

RAFAEL BEYAR

Rambam Medical Center and Technion, Israel Institute of Technology, Haifa, Israel

ABSTRACT: Progress in cardiovascular disease understanding and management continues at an exponential pattern. Our present day knowledge of the molecular basis of disease is enhanced by newer molecular measurement techniques, sophisticated models of physiological protein functions, insight into the genetic foundation of diseases and the incorporation of population genetic tools in our clinical analysis. These mechanisms are now applied to the prevention and therapy of coronary stenoses impeding coronary flows, as well as to the prevention of acute and chronic manifestation of coronary flow impairment and interference in the deprivation of coronary flow. Mechanical heart failure and arrhythmias are common causes of myocardial dysfunction that originate, in part, from the loss of myocardial tissue and function. Methods of interference with the cardiac function range from pharmacological to mechanical procedures. These include mechanical dilation and scaffolding of coronary stenosis, accounting for the molecular mechanisms associated with restenosis. Stents with and without drug coating and local delivery of drugs are leading the clinical world of revascularization, side by side with cardiac bypass surgery. Other aspects discussed here involve handling myocardial damage and methods to manage acute and chronic pump failure. Finally, we discuss the scale of the population cardiac health and the potential of genetic therapeutics in handling ischemic cardiovascular diseases.

KEYWORDS: Coronary stenosis, ischemic heart disease, myocardial damage, heart failure

Address for correspondence: Prof Rafael Beyar, MD, DSc, Director, Rambam Health Care Campus, 8 Ha'Aliyah St., Haifa 35254, Israel; Tel: +972 4854 2389; Fax: +972 4854 2907
Email: r_beyar@rambam.health.gov.il

