



Innovative Ideas: Key to the Future

Alireza Ziaei^{1*}

¹*Schepens Eye Research Institute, Massachusetts Eye and Ear in Boston, USA*

In world of today, cardiovascular disease is the greatest threat to human life and health. The pace of current remarkable progress in clinical and basic research during the past decade is such that notable improvement in the quality and length of life, for those at risk for cardiovascular disease, can be confidently predicted. Death rates from cardiovascular disease declined 20% in past 20 years, but today millions of US residents have a history of heart attack, chest pain, or both (American Heart Association). Moreover, cardiovascular disease remains the nation's leading cause of death, claiming nearly 1 million lives each year. As the population ages, cardiovascular disease will have an ever greater human and economic impact. Thus, research for improved predictors of cardiovascular disease and improved therapies for prevention and cure must be the goal. Despite the progress that has been made, the importance of cardiovascular research in today's world cannot be overemphasized. Several exciting areas of research portend future advances in the therapy of coronary artery stenosis. In the setting of Acute Myocardial Infarction (AMI) the combination of thrombolytic agents and inhibitors of platelet aggregation appears promising. But restenosis continues to be a major limitation of catheter based vascular interventions. Although angioplasty and coronary artery bypass surgery are still of clinical and research interest, the hope has been raised that local and systemic administration of vascular growth factors may provide better means to enhance the development of coronary collateral circulation.

Heart failure is the main complication of many types of heart disease. In the United States alone, 400,000 new cases of Congestive Heart Failure (CHF) are diagnosed each year. Despite significant advances in treatment, the prognosis remains poor and new treatments are urgently needed. Development of new therapies for CHF is of vital priority. Heart failure is now the single most common reason for hospitalization of persons older than 65 years in the US population. The hope is that basic research will clarify the genes that place individuals at risk and identify the mechanisms that control normal and abnormal cardiac contractility. Through research and innovation, it is needed to create the knowledge that will bring new therapies to patients and make greater contributions in our fight against cardiovascular diseases, as the nation's number one health problem. The main mission of cardiovascular research is generating knowledge to improve clinical decision making and healthcare delivery with the goal of optimizing patients' outcomes.

Scientific curiosity is the motor driving the ambitious and innovative research, while the fuel is provided by the desire to address and rectify the enormous burden cardiovascular diseases place on the patients. Innovative techniques are the way of the future and they make it possible to make scientific breakthroughs at top speed. New ideas and the development of novel techniques are the essential ingredients to guarantee scientific innovation. Obviously, a critical initial step in this direction is to expand the infrastructure for training cardiovascular researchers. Aside from pursuing excellence in science and innovation, training the future generation of scientists and physicians remains one of the primary goals. The close collaborations between the basic and clinical divisions, formulate important scientific questions, design mechanisms to validly address existing gaps in knowledge, communicate their findings to relevant parties, provide translational insights to future physician & scientists.

*Corresponding author: Alireza Ziaei, Schepens Eye Research Institute, Massachusetts Eye and Ear in Boston, USA, E-mail: alireza.ziaei@schepens.harvard.edu

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