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GENOMIC MEDICINE IN CARDIOVASCULAR DISEASE: INTRODUCTION

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Genes have been discovered for more than 100 single-gene cardiovascular diseases, including long QT syndrome, Brugada syndrome, and atrial fibrillation. Since the technology became available to pursue polygenic disorders, starting with 9p21, 50 genes have been discovered predisposing to coronary artery disease. As a result, the cost of DNA sequencing has decreased one million-fold.

This special issue of the *Methodist DeBakey Cardiovascular Journal* updates these findings and their potential clinical applications. Providing a panoramic review of the role of genetics today and in the future are A.J. Marian, M.D., from The University of Texas Health Science Center, who discusses sequencing of the human genome; Sonny Dandona, M.D., of McGill University, who explores cardiovascular drugs and the genetic response; and Robert Roberts, M.D., who provides an overview of the genetics of coronary artery disease. Next, Ramon Brugada, M.D., of the University of Girona-IDIBGI in Spain, discusses the recent clinical diagnosis, genetic basis, and pharmacological treatment advances in Brugada syndrome, while Michael Gollob, M.D., of the University of Ottawa Heart Institute, offers a contemporary review on the genetic basis of atrial fibrillation. These last two articles bring together genetics and pharmacogenetics in the hope of improving therapies for sudden cardiac death and arrhythmias.