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Targeted Resequencing Approach in Identification of Genomic Variants in Individuals with Myocardial Infarction Using Next Generation Sequencing-Based Multigene Custom Designed MI Panel

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ABSTRACT The purpose of this study was to build advanced genetic diagnosis by identifying biomarkers associated with Myocardial Infarction (MI) related disorders and to investigate the genetic predisposition to MI and genes causative. For this investigation and identification, the researchers have chosen genes most predominant in the Indian population towards cardiovascular disorders and designed a customised panel comprising a set of selected genes implicated in cardiovascular health, atherosclerosis, and thrombosis, which is used for further sequencing and screening of the subjects involved in the study. The researchers observed mutations in genes CELSR2, MRPS6 and APOB show clear involvement in MI and cardiovascular related disorders and identified as the most repetitive across all the subjects. This comprehensive analysis from cases to controls can contribute to valuable insights into developing precision medicine strategies focused on examining the individual genes and variants included with MI to elucidate their specific contributions to MI-related conditions and developing Polygenic risk scores.