

# C D M NA

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## Abstract

Even though there has been significant advancement in this area over the past 20 years, heart failure and coronary artery disease (CAD) still have high death rates worldwide. A novel diagnostic method and a therapy plan are still needed in the clinical setting to reduce the prevalence of CAD. In order to post transcriptionally silence genes, microRNAs (miRNAs), highly conserved noncoding short RNA molecules, bind to corresponding messenger RNA sequences and control a significant portion of the genome. Specific miRNAs have been found to have a role in every step of atherosclerosis, from endothelial dysfunction to plaque rupture, according to recent studies. These results imply that miRNAs may serve as biomarkers for CAD early diagnosis and as treatment targets. The involvement of miRNAs in each stage of atherosclerosis is highlighted in the current review, and its prospects are also covered.

Using both in vitro and in vivo human and mouse models, the current research highlights the antioxidative and antiatherogenic effects of pomegranate polyphenols on serum lipoproteins and on arterial macrophages (two important components of the atherosclerotic lesion). The production of foam cells, a sign of early atherogenesis, and the build-up of cholesterol and oxidised lipids in macrophages were both significantly decreased by pomegranate juice and its by-products. This attenuated the development of atherosclerosis and the subsequent cardiovascular events.

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## Method and Material

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