**ENHANCING INFLAMMATION RESOLUTION IN ACUTE CORONARY ARTERY DISEASE: THE NEXT FRONTIERS FOR THERAPY?**

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Inflammation underlies development and progression of atherosclerotic plaques from nascent lesions to rupture of fibrous cap that precipitate acute coronary syndromes (ACS). Ideally, the inflammatory response also involve a resolution phase, resulting in tissue repair and return to homeostasis. Resolution of inflammation is an active process governed by specialised pro-resolving mediators (SPMs). The SPM families include annexin A1, IL-10, nucleotides, gaseous and lipid mediators, such as lipoxins, resolvins, protectins and maresins arising from omega-3 polyunsaturated fatty acids. Recent evidence indicates that while early/stable plaques exhibit a controlled inflammation phenotype, resolution mechanisms are defective in advanced/vulnerable plaques. The imbalance between pro-inflammatory mediators and SPMs contributes to atheroprogression, thereby aggravating ACS risk. Pharmacological targeting of pro-inflammatory mechanisms could compromise host defense or disrupt vascular homeostasis. A burst of new preclinical data with SPMs suggests that stimulating rather than blocking natural host responses may be a better way to prevent ACS. Indeed, therapeutic administration of SPMs attenuates trafficking of inflammatory cells into injured arteries, reduces oxidative stress, NF-kB activation and myeloperoxidase signaling. SPMs can also facilitate neutrophil apoptosis, rescue impaired efferocytosis and promote collagen synthesis, resulting in stabilization of atherosclerotic plaques. Thus, development of drugs to restore defective resolution mechanisms represents a promising novel approach for reducing ACS risk or for the treatment of acute coronary artery disease.

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