

Special Issue

Effects of Dyslipidemia and Metabolic Syndrome on Cardiac and Vascular Dysfunction

Message from the Guest Editors

Dysmetabolic conditions, such as hyperglycemia, insulin resistance, dyslipidemia, metabolic syndrome and type 2 diabetes, affect an increasing number of people worldwide. For example, lipids and lipid droplets accumulating in cardiomyocytes are common phenotypic features of dyslipidemia and metabolic syndrome in heart disease. Dyslipidemia in metabolic syndrome is characterized by rich apolipoprotein (apo) B-100 particles and high levels of triglycerides, and is an established risk factor for cardiovascular disease. The role of dyslipidemia and metabolic syndrome in cardiac dysfunction involves a variety of pathological metabolic mechanisms, such as changes in oxidation and fatty acid uptake caused by impaired insulin signals and changes in the lipoprotein profile and lipoprotein receptor. These events lead to altered basic functions and signal pathways, such as fat oxidation and phagocytosis regulating autophagy, thus affecting the fate of cardiomyocytes and vascular cells and their resistance to stress. The discovery of novel pathogenetic mechanisms in cardiac remodeling and dysfunction will pave the way for new exploitable therapeutic targets.

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