

Heart energy metabolism and its role in the treatment of heart failure

Metabolismo energético del corazón y sus proyecciones en el tratamiento de la insuficiencia cardíaca

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It is unknown why heart failure progresses even when patients are treated with the best therapy available. Evidences suggest that heart failure progression is due to loss of neurohumoral blockade in advanced stages of the disease and to alterations in myocardial metabolism induced, in part, by this neurohumoral activation. Alterations in cardiac energy metabolism, especially those related to substrate utilization and insulin resistance, reduce the efficiency of energy production, causing a heart energy reserve deficit. These events play a basic role in heart failure progression. Therefore, modulation of cardiac metabolism has arisen as a promissory therapy in the treatment of heart

failure. This review describes myocardial energy metabolism, evaluates the role of impaired energy metabolism in heart failure progression and describes new therapies for heart failure involving metabolic intervention.