**MYOCARDIAL INSULIN SIGNALING IN ISCHEMIC HEART FAILURE**

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Heart failure is a leading cause of morbidity and mortality worldwide. Clinical studies have shown that heart failure is associated with insulin resistance, which affects myocardial energy supply and blood perfusion. As one of the important targets of insulin action, the heart has been reported to have abnormal energy metabolism and develop myocardial insulin resistance independent of systemic insulin resistance during ischemic heart failure. Given the importance of myocardial insulin signaling in the protection against ischemia-induced myocardial injury and subsequent cardiac dysfunction and remodeling, myocardial insulin resistance and its association with post-ischemic heart failure are inadequately investigated. Our previous study has shown that myocardial insulin resistance occurs before systemic insulin resistance and contributes to the development of post-ischemic heart failure. The impaired myocardial insulin action is partly mediated by overproduction of pro-inflammatory cytokine TNF-alpha induced by myocardial infarction. Recently we found that atrial natriuretic peptide (ANP), a cardiogenic hormone which increased significantly during heart failure, suppressed systemic insulin sensitivity. On the other hand, post-myocardial ischemia and resultant impaired myocardial insulin signaling induced systemic insulin resistance via increasing ANP production in heart failure. These findings suggest that myocardial insulin signaling plays an important role in the protection of ischemic heart against heart failure.