Ketones to Rescue the Failing Heart

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Over the past few years, various groups of investigators have discovered a previously unrecognized reliance of failing hearts on ketone body oxidation. However, the role of this fuel switch as adaptive, maladaptive, or of no consequence to the pathogenesis of heart failure is still unknown. Very recent results indicate that the heart increases the utilization of the ketone body 3-hydroxybutyrate as an adaptive metabolic response during periods of nutritional and chronic hemodynamic stress. Moreover, strategies aimed at increasing 3-hydroxybutyrate delivery to the heart reduced pathologic cardiac remodeling and dysfunction in mice and in a dog model of dilated cardiomyopathy.