

intensive care units should be aware of this startling syndrome and the need for immediate, energetic therapy.

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Metabolism

FFA AND MYOCARDIAL METABOLISM The arterial and coronary sinus concentrations as well as myocardial extraction of free fatty acids (FFA), glucose, lactate, and pyruvate were measured at rest in healthy, fasting male subjects. The arterial FFA concentrations demonstrated a significant negative linear correlation with myocardial extraction of glucose, lactate, and pyruvate, but were independent of the arterial concentrations of glucose and lactate. When the arterial FFA concentrations rose above 800 $\mu\text{mol/l}$, a significant efflux of pyruvate into the coronary sinus was observed.

These results suggest that FFA can depress glucose uptake in the human heart, due in part to the inhibition of pyruvate dehydrogenase. In addition, the relationship between arterial FFA concentration and myocardial lactate extraction indicates that FFA concentrations should be taken into consideration when calculating the per cent extraction of lactate by the human heart as an indicator of myocardial ischemia.

Further studies were carried out in two groups of subjects after 2 hours of supine leg exercise. One group, which received a continuous infusion of nicotinic acid during the period of exercise, showed a much lower arterial FFA concentration, but unaltered concentrations of glucose, lactate, and pyruvate. The suppression of the exercise-induced rise in arterial FFA concentration was associated with increased myocardial extraction of glucose, lactate, and pyruvate, suggesting again that in man a reciprocal relationship exists between arterial FFA concentrations and myocardial metabolism of carbohydrate substrates. (Carlson, L. A., and others: *The Relationship in Man Between Plasma Free Fatty Acids and Myocardial Metabolism of Carbohydrate Substrates*. *Cardiology* 57: 51-54, 1972.)