

Angello D, R Wilson, D Gee, N Perlmutter. Recovery of myocardial function and thallium 201 redistribution using ribose. *Am J Card Imag* 1989;3(4):256-265.

Impaired mechanical function and monovalent cation transport are consequences of even transient episodes of myocardial ischemia. Ribose, an adenine nucleotide precursor, has been shown to favorably affect thallium 201 redistribution postischemia. The purpose of this investigation was to determine whether a continuous infusion of ribose, administered before ischemia and throughout reperfusion, could enhance recovery of postischemic mechanical function as well as thallium 201 distribution. Sixteen domestic swine received either an intravenous ribose (n = 8) or saline (n = 8) infusion beginning 20 minutes before a 10-minute ischemic period and continuing throughout a 90-minute reperfusion period. Thallium 201 activity was continuously monitored after its injection midway during ischemia in ischemic and normally perfused regions with miniature cadmium-telluride radiation detection probes. Wall thickening was assessed by an ultrasonic crystal method. Ribose-treated animals had recovery of wall thickening to preischemic levels at 60 minutes postreperfusion ($28.4 \pm 3.2\%$ vs $38.0 \pm 3.2\%$ preischemia, $P < .001$). Postischemic thallium 201 redistribution was also significantly better in ribose-treated animals ($69 \pm 6\%$ v $44 \pm 5\%$, $p = .0048$) at the end of the experiment. Administration of metabolic substrates such as ribose before an ischemic event and during reperfusion may enhance recovery of postischemic myocardial function. Ribose may also be useful in adjunct to enhance detection of thallium 201 redistribution during thallium 201 scintigraphy.