

Evaluation of the protective effect of verapamil on reperfusion injury by ^{111}In anticardiac myosin antibody in canine myocardial infarction

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We quantitated the protective effect of verapamil on reperfusion injury in canine myocardial infarct using ^{111}In -anticardiac myosin antibody and correlated to the electronmicroscopic findings. Experimental myocardial infarction was performed by one hour occlusion of the anterior descending coronary artery and followed by reperfusion. Saline or verapamil (0.6 mg/kg/hr) was started at 40 minutes after coronary artery occlusion and continued throughout the experiment. There was an inverse exponential relationship between anticardiac myosin uptake and regional coronary blood flow in both the control ($r = -0.86$) and the verapamil treated ($r = -0.71$) groups. Less uptake of ^{111}In -anticardiac myosin antibody was observed in the verapamil treated group than in the control group of the regions where blood flow was lower than 30% of normal. In the control group, the myocardium showed signs of the typical contraction band necrosis. In the verapamil treated group, however, the myocardium contained fewer electron dense granules and mild degree of contraction bands.

Key words: myocardial infarction, anticardiac myosin antibody, verapamil, contraction band necrosis