

Stress radionuclide studies after acute myocardial infarction: Changes with revascularization

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Abstract of:

Journal of Nuclear Cardiology
Volume 3, Number 5; 403-409. 1996

Background. Successful revascularization of ischemic asynergic myocardium should be followed by improvement in contractile function. However, a clear improvement is not always observed. Assessment of contractile reserve may allow a better evaluation of procedural results.

Methods and Results. To assess the changes in global and regional left ventricular ejection fraction (EF), as well as the contractile reserve after revascularization, equilibrium radionuclide angiography was performed in 16 patients with acute myocardial infarction who had periinfarct redistribution (observed in stress-rest-reinjection thallium single-photon emission computed tomography). Regional EF was defined in the asynergic region at rest, which corresponded to the infarct

plus periinfarct areas. Both thallium single-photon emission computed tomography and equilibrium radionuclide angiography were performed at rest and during stress with dobutamine, up to a maximal dose of 40 μ l/kg/min. The same studies were repeated 8 \pm 26 months after successful revascularization (nine coronary angioplasties and seven bypass procedures). After intervention, the thallium defect score decreased significantly at rest and during stress. Global EF changed from 45% \pm 2 10% to 47% \pm 2 11% (difference not significant) at rest and from 49% \pm 2 12% to 63% \pm 2 13% ($p = 0.0001$) at peak stress. Regional EF changed from 27% \pm 2 8% to 35% \pm 2 18% ($p = 0.03$) at rest and from 29% \pm 2 10% to 56% \pm 2 21% ($p = 0.0001$) at peak stress.

Conclusions. In patients with asynergy caused by periinfarct ischemia, there can be an increase in regional but not global EF at rest after revascularization. However, both parameters improve at peak dobutamine dose. This indicates an improvement in contractile reserve.

Effect of hypercholesterolaemia on platelet growth factors

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Abstract of:

European Journal of Clinical Investigation (1996)
26, 929-935

Abstract. Evidence from several sources suggests that important interactions occur between platelets and low-density lipoproteins. This study was undertaken to find out if diet-induced hypercholesterolaemia affects the growth factor content in circulating platelets. Minipigs were fed either normal diet supplemented with 2% cholesterol ($n = 12$) or normal diet alone ($n = 12$). After 4 months, mean platelet volume was significantly lower ($P < 0.05$) and monocyte count was significantly

higher ($P < 0.05$) in the cholesterol group. Serum and intraplatelet levels of platelet-derived growth factor (BB homodimer) and transforming growth factor beta 1 were statistically unchanged after diet. Hypercholesterolaemia did not affect the proliferative effect of either serum or platelet lysates on porcine vascular smooth muscle cells and Swiss-3T3 cells in culture. A significant positive correlation between Swiss-3T3 and smooth muscle cell proliferation was present in both groups. These results suggest that the atherosclerosis-promoting effect of hypercholesterolaemia cannot be explained by its direct effect on smooth muscle cell proliferation or by changes in serum or intraplatelet concentrations of growth factors.