

Reverse redistribution of Tc-99m-tetrofosmin in patients with acute myocardial infarction

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We examined reverse redistribution (RR) of Tc-99m-tetrofosmin after a single injection in patients with acute myocardial infarction (AMI). Tc-99m-tetrofosmin myocardial SPECT was performed in 28 patients with AMI 10–14 days after the onset. Myocardial images were obtained 30 min and 180 min after the injection of 740 MBq of Tc-99m-tetrofosmin. The left ventricular wall was divided into 9 segments. Regional myocardial uptakes of Tc-99m-tetrofosmin were scored by 4-point scoring (0 = normal, 1 = mildly reduced, 2 = moderately reduced, and 3 = defect). RR was defined as an increase of more than 1 in the regional score in images at 180 min. RR of Tc-99m-tetrofosmin was observed in 17 of 20 patients with direct PTCA and 3 of 8 patients without reperfused therapy. RR was observed in 61 of all 252 segments. Coronary angiography performed 1 month later revealed that the infarct-related artery was patent in 19 of 20 patients (95%) with RR and in 3 of 8 patients (37.5%) with persistent defects (PD) ($p < 0.05$). In segment-by-segment analysis, the incidence of regional wall motion abnormality 1 month later was reduced in regions with RR compared to those with PD ($p < 0.0001$). In conclusion, RR of Tc-99m-tetrofosmin was frequently observed in patients with successful direct PTCA. As the segments with RR showed signs of preserved function 1 month later, this phenomenon may reflect a salvaged myocardium in AMI.

Key words: Tc-99m-tetrofosmin, reverse redistribution, acute myocardial infarction, PTCA