

Summary

Marked ^{99m}Tc -PYP Myocardial Accumulation Immediately after Reperfusion in a Patient with Acute Myocardial Infarction

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We reported a case of a 72-year-old man with chest pain. An electrocardiogram showed ST segment elevation in I, II, III, aV_L, aV_F and V₁₋₆ leads. ^{99m}Tc -tetrofosmin myocardial SPECT showed defect in the anterior, septal, apical and inferior walls. Coronary angiography showed 99% stenosis of the proximal right coronary artery and total occlusion of the mid-segment of the left anterior descending coronary artery. Therefore, direct PTCA was performed for each lesion to achieve reperfusion. We didn't see reperfusion injury during PTCA of the left coronary artery. On the other side, we saw severe reperfusion injury, such as slow-flow, arrhythmia and falling blood pressure during PTCA of the right coronary artery. After four hours, ^{99m}Tc -PYP myocardial SPECT showed marked uptake in the apical and inferior walls, and mild uptake in the anterior and posterior walls. After three days, severely-reduced uptake of ^{99m}Tc -

PYP in the apex was noted, and mild uptake in the mid-portion of the anterior wall and the mid-portion of the inferior wall. Though reperfusion injury was seen, there was mild myocardial uptake of ^{99m}Tc -PYP in the area of the right coronary artery. On the other side, despite no reperfusion injury, there showed marked uptake during the acute phase and defect during the subacute phase in the area of the left coronary artery. Wall motion of the left ventricle was normal in the area of the right coronary artery and akinesis was seen on the left. These findings suggest that ^{99m}Tc -tetrofosmin and ^{99m}Tc -PYP myocardial SPECT are useful for visualization of reperfusion injury during the acute phase and for estimation of function during the chronic phase, better even than electrocardiogram or coronary angiography.

Key words: Acute myocardial infarction, Reperfusion injury, ^{99m}Tc -PYP, ^{99m}Tc -tetrofosmin.