

Summary

Prediction of Improvement of Left Ventricular Wall Motion in Patients with Myocardial Infarction —By Using ^{99m}Tc -Tetrofosmin and ^{123}I -BMIPP Myocardial SPECT at Subacute Phase—

Naoko AKIMOTO

Second Department of Internal Medicine, Toho University, School of Medicine

The relationship between myocardial perfusion, fatty acid metabolism, and cardiac functional recovery were investigated by using single photon emission computed tomography (SPECT) with ^{99m}Tc -1,2-bis[bis(2-ethoxyethyl)phosphino]ethane (tetrofosmin: TF) and Iodine-123- β -methyl-p-iodophenyl-pentadecanoic acid (BMIPP) in patients with myocardial infarction. We examined myocardial SPECT in 18 patients with acute myocardial infarction (AMI) underwent successful reperfusion therapy within 24 hours from onset.

TF myocardial SPECT (early and delayed images) and BMIPP (early image) SPECT were performed 2 weeks after onset of AMI, and regional TF and BMIPP defect scores of the infarct area were scored visually by a 4-point system.

There was a significant correlation between the defect score of the TF delayed image, BMIPP image and SD/chord (indicator of regional wall motion abnor-

malities on left ventriculograms) at subacute phase (TF: $r = -0.592$, $p = 0.011$, BMIPP: $r = -0.643$, $p = 0.004$). Good correlations were also found between the defect score of the TF delayed image, the BMIPP image and the SD/chord at chronic phase (TF: $r = -0.491$, $p = 0.037$, BMIPP: $r = -0.599$, $p = 0.007$).

Furthermore, there was a significant correlation between the improvement of SD/chord (acute to chronic phase) and the degree of reverse redistribution score of TF ($r = 0.735$, $p = 0.022$), and discordance score between TF and BMIPP ($r = 0.691$, $p = 0.037$).

In conclusion, resting BMIPP and TF myocardial SPECT performed in patients with subacute phase AMI were shown to be useful in predicting improvement of left ventricular function at chronic phase.

Key words: Acute myocardial infarction, ^{99m}Tc -tetrofosmin, ^{123}I -BMIPP, Myocardial SPECT, Improvement of left ventricular function.