Summary

Usefulness of Early Tetrofosmin Myocardial SPECT during Subacute Period to Estimate Salvaged Myocardium in Patients with Acute Myocardial Infarction —Comparing with Tetrofosmin Myocardial SPECT during Chronic Period and Evaluating Regional Wall Motion Using QGS Method—

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To evaluate salvaged myocardium of acute myocardial infarction (AMI), we performed rest ^{99m}Tc-tetrofosmin (TF) SPECT with rest Tl and Tc-pyrophosphate (PYP) dual SPECT within 10 days after admission in 19 patients with initial AMI, who all were reperfused successfully and without restenosis. TF SPECT was obtained at 15 minutes (E) after tracer injection, 4 hours later (D), and 5 months later (FU). We calculated the regional uptake score (RUS) of infarcted area estimated by Tc-PYP uptake and defined RUS(FU) of TF(FU) as salvaged myocardium, and then regarded RUS/RUS(FU)$\times$100 (%) as subacute predicted value of salvaged myocardium. Furthermore, we regarded the improvement of wall motion estimated by QGS method as the guidepost of myocardial viability. The subacute predicted value of TF(E) was 85$\pm$25%, which was significantly higher than 61 $\pm$28% of Tl and 36$\pm$24% of TF(D) ($p<0.01$). Sensitivity and specificity of myocardial viability based on the improvement of wall motion SPECT image were 78% and 73% for Tl, 90% and 87% for TF(E) and 52% and 87% for TF(D). TF myocardial early imaging in subacute period was useful to detect salvaged myocardium.

Key words: Tetrofosmin, AMI, QGS, Stunning.