Summary

Correlation of Risk Area and Reverse Redistribution of ^{99m}Tc-Sestamibi SPECT in Acute Myocardial Infarction Following Direct PTCA

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Redistribution of ^{99m}Tc-sestamibi is negligible in usual circumstances, but recent reports demonstrated reverse redistribution is detectable in acute myocardial patients. Correlation of risk area, observed in ^{99m}Tc-sestamibi "freezed" SPECT image at onset, and delayed images at 5–25 days after onset (post-PTCA image) is evaluated in 19 acute myocardial infarction patients treated with direct PTCA.

Reverse redistribution was observed in 85% of reperfused area. Linear relationship of %uptake in each SPECT segment between onset and post-PTCA images (taken at 0.5, 4, and 6 hours after injection) is evaluated and the relationship improves over time course. The correlation coefficient between onset and 6 hours-delayed image is 0.88, and the visual concordance shows 77% of score matching.

Delayed ^{99m}Tc-sestamibi SPECT image on reperfused AMI seems to represent risk area with some underestimation. It may be useful to estimate both risk and salvaged areas on early and delayed SPECT with a single ^{99m}Tc-sestamibi injection.

Key words: ^{99m}Tc-sestamibi, Acute myocardial infarction, Risk area, Reverse redistribution, PTCA.