

## Contribution of $^{99m}\text{Tc}$ -sestamibi infusion SPECT to the characterization of fixed perfusion defects

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In patients with coronary artery disease, the distinction between scar and viable myocardium by means of myocardial perfusion imaging (MPI) sometimes can be difficult because of the equivocal meaning of fixed perfusion defects. In this study we examined whether addition of a  $^{99m}\text{Tc}$ -sestamibi infusion study to the standard MPI could provide extra information regarding the fixed defects. Thirty-seven patients underwent standard MPI and an extra SPECT study in which  $^{99m}\text{Tc}$ -sestamibi was given as a prolonged constant infusion. Of 324 myocardial segments available for analysis, 134 had fixed or resting perfusion abnormalities on standard MPI studies, of which 25% (33/134) in 12 patients showed partial improvement in the perfusion pattern whereas in 6% (8/134) the improvement was very significant in infusion studies. In 19 patients who were also examined with dobutamine echocardiography, 13 showed concordance between echocardiography and infusion MPI. This study suggests that infusion MPI may provide complementary information to the conventional scintigraphy with regard to interpretation of standard myocardial perfusion scans with fixed defects.

**Key words:** myocardial perfusion imaging, fixed defects, myocardial viability