

Summary

The Accuracy and Reverse Effects of Thallium Myocardial SPECT Using Adenosine Triphosphate Loading in the Diagnosis of Coronary Artery Disease: Comparison with Other Loading Methods Semiquantitatively

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The adverse effects and diagnostic accuracy of thallium-201 myocardial SPECT after intravenous infusion of adenosine triphosphate (ATP) were studied and compared with SPECT examinations with other type of loading. The subjects of the study were 147 patients with or without coronary artery disease, who underwent some type of loading SPECT and coronary arteriography (CAG) within 30 days. Myocardial ischemia was evaluated qualitatively in SPECT and was compared with CAG for the diagnostic accuracy of coronary artery disease. The degree of myocardial uptake defect was also calculated semiquantitatively using visual scoring method and compared with coronary artery severity score. The adverse effects

occurred in 46.7% of ATP loading SPECT which was more frequent than DIP loading SPECT, but all of them were transient and mild. As for the diagnostic ability, the ATP loading SPECT was as effective as other type of loading in qualitative interpretation, and the perfusion defect scores showed a good correlation with coronary artery stenosis grade. The myocardial SPECT using ATP is safe and useful for the diagnosis of coronary artery disease especially in patients who cannot exercise.

Key words: Thallium-201, Myocardial scintigraphy, SPECT, Adenosine triphosphate, Coronary artery disease.