

Summary

Comparison of Myocardial Perfusion Imaging by Thallium-201 Single-Photon Emission Computed Tomography with SUNY4001 (Adenosine) and Exercise —Crossover Clinical Trial at Multi-Center—

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We compared the ischemic diagnosis ability and adverse events of ²⁰¹Tl myocardial perfusion imaging with SUNY4001 (adenosine) stress to that with exercise (ergometer) stress both on random crossover trial. Thirty one known or suspected chronic stable angina patients who are able to exercise and 10 healthy volunteers were enrolled for the trial. The early and delayed images were obtained by SPECT imaging. The concordance of diagnoses [ischemia vs. no ischemia] between the two types of stresses was 97.3% (36/37) [Kappa: 0.9068].

The sensitivity and specificity based on the exercise test were 100% (6/6) and 96.8% (30/31) respectively.

The incidence of adverse events caused by SUNY4001 and the exercise were 44.7% (17/38) and 52.6% (20/38), respectively.

Major adverse events caused by SUNY4001 were BP decrease, flushing and headache.

And those by exercise were ST decrease, dyspnea and chest pain. None of the adverse events required the intervention or caused life-threatening complication in the trial.

The trial showed that the ischemic diagnosis ability and safety of ²⁰¹Tl scintigraphy with SUNY4001 stress are almost equal to those of the exercise stress that is considered as the standard stress method.

We concluded that ²⁰¹Tl imaging with SUNY4001 is safe and useful for detecting ischemic heart disease, especially for patients unable to exercise adequately.

Key words: Adenosine, Exercise, ²⁰¹Tl, Diagnosis, Ischemic heart disease.