

## Prognostic value of ECG-gated thallium-201 single-photon emission tomography in patients with coronary artery disease

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**Background:** The phenomenon of reversible impairment in LV function has been well described and is known as myocardial stunning. **Objective:** Thallium-201 myocardial perfusion gated SPECT was used to evaluate myocardial stunning and its incremental prognostic value in patients with coronary artery disease. **Patients and Methods:** Fifty-six patients (aged  $63 \pm 11$  years) with coronary artery disease were included in this study. All subjects underwent exercise thallium scintigraphy. ECG-gated SPECT was obtained both at post-stress (10 minutes after the injection of 111 MBq of thallium at the time of peak exercise) and at rest (180 minutes). The left ventricular ejection fraction (LVEF) and end-systolic and end-diastolic volume (ESV, EDV) were determined by a quantitative gated SPECT (QGS) program. **Results:** Follow-up was complete in all patients (mean 569 days). The magnitude of the depression of post-stress LVEF relative to the rest LVEF was correlated with the severity of ischemia ( $p < 0.05$ ). The group with a median LVEF of more than 45% had a significantly higher event-free rate ( $p < 0.01$ ). **Conclusion:** Assessment of post-stress left ventricular function by gated-SPECT provides incremental prognostic information and is useful in predicting cardiac events in patients with suspected or definite coronary artery disease.

**Key words:** QGS, thallium, stunned myocardium