

Usefulness of resting thallium-201 delayed imaging for detecting myocardial viability in patients with previous myocardial infarction

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To test the feasibility of resting thallium-201 (^{201}Tl) initial and delayed scintigraphy for detecting the area of viable myocardium, we performed single photon emission computed tomography (SPECT) in 57 patients with previous myocardial infarction (MI). All had received coronary arteriography (CAG) and left ventriculography (LVG). Initial and delayed myocardial imagings were carried out 10 min and 2 hours, respectively, after the injection of ^{201}Tl at rest. Redistribution was judged by visual interpretation and/or the circumferential profile curve, and found in the infarcted or its adjacent area in 40 of the 57 cases (70.2%). A negative washout (net increase of ^{201}Tl uptake in delayed image) was detected in 17 of these 40 cases. In 10 of the 57 patients, both exercise and rest-injected ^{201}Tl myocardial images were obtained at exercise and rest, and compared visually. The areas of abnormal perfusion were smaller in the resting delayed images than those seen after exercise in 9 of the 10 cases, and were equal in one case. Thus, resting ^{201}Tl delayed myocardial scintigraphy appears to reduce the underestimation of the size of the viable myocardium by the usual ^{201}Tl images obtained after exercise or by single initial images obtained at rest in patients with previous MI.

Key words: redistribution, negative washout, myocardial viability, thallium-201, rest injection