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Scintigraphic Calf perfusion symmetry after exercise : a new non-invasive index for prediction of cardiovascular events ?

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Background. Whole body exercise thallium scintigraphy can detect silent or symptomatic PAD. Whether exercise thallium perfusion muscular asymmetry in the legs has prognostic value is unknown.

Methods and Results –Three hundred fifty-eight consecutive patients (mean age 58.8 ± 10.2 year; coronary artery disease, 202/358; 56.4 %) were prospectively followed after thallium 201 myocardial scintigraphy. Scintigraphic calf perfusion symmetry after exercise (SCPSE) was measured at the end of a treadmill exercise test. During the follow-up period (mean, 85.3 ± 32.8 months, range, 6-115), 93 cardiovascular events and cardiovascular deaths (incident cases) occurred. Among incident cases, the percentage of subjects with higher SCPSE values (third tertile) was 45.2 % compared to 29.1 % in controls ($p=0.005$). In stepwise multivariate analysis performed with the Cox proportional hazards model, previous CAD and SCPSE were the only significant independent predictors of prognosis. The multivariate relative risk of cardiovascular death or cardiovascular event in subjects with higher values of SCPSE was 1.94 (95 % CI: 1.15 - 3.21; $p<0.01$).

Conclusions –This highly reproducible index which is easily and quickly calculated following exercise myocardial scintigraphy could be used as a new tool for identifying high cardiovascular risk patients.

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