A QRS score versus ST-segment changes during exercise testing: which is the most reliable ischaemic marker after myocardial revascularisation?

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Abstract

BACKGROUND:

The diagnostic ability of exercise testing based on ST-segment changes is low for the detection of restenosis after percutaneous transluminal coronary angioplasty (PTCA) or ischaemia after bypass surgery (CABG). The aim of this study was to improve the diagnostic accuracy of exercise testing in patients with a history of PTCA or CABG, with the implementation of a QRS score.

METHODS:

We studied 128 post-PTCA patients (aged 49 +/- 8 years) and 104 post-CABG patients (aged 54 +/- 8 years), who had either positive exercise tests with or without angina, or negative exercise tests with continuing angina-like symptoms, and underwent cardiac catheterisation.

RESULTS:

The univariate risk ratio of exercise-induced ST-segment deviation to detect restenosis was 3.05 (p = 0.005) and 0.83 (p = 0.690) in group A and group B patients, respectively. The univariate risk ratios of abnormal QRS score values to detect restenosis were 32.1 (p < 0.001) and 18.8 (p < 0.001) for group A and group B patients, respectively. The univariate risk ratios of the combination of exercise-induced ST-segment changes and of abnormal QRS score values to detect restenosis was 9.43 (p < 0.001) and 3.77 (p < 0.044) for group A and group B patients, respectively. The value of the area under the ROC curves is higher for the QRS score in group A patients, group B patients and for the whole study population.

CONCLUSIONS:

QRS score values significantly improve the diagnostic ability of ST-segment change-based exercise testing, for the assessment of restenosis after PTCA or ischaemia after CABG.