



EDITORIAL COMMENT

To be or not to be referred for cardiac rehabilitation after acute coronary syndrome[☆]



Referenciar ou não referenciar para reabilitação cardíaca após síndrome coronária aguda

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Acute coronary syndrome (ACS) is associated with significant mortality in the acute stage, but this has steadily fallen in recent years.^{1,2} This increased survival has led to growing concerns about the high recurrence rates of fatal and non-fatal vascular events, with a negative impact on prognosis and quality of life in the medium and long term.^{2,3} Against this background, secondary prevention, with optimal medical therapy and lifestyle modification, is essential to reduce recurrence of vascular events, and should be implemented in a well-structured cardiac rehabilitation (CR) program.³

CR consists of a wide-ranging set of health-promoting interventions that include exercise training, dietary counseling, risk factor control, smoking cessation, adherence to therapy and psychosocial support, usually on an outpatient basis.⁴ Its benefits in coronary artery disease are well established. In a meta-analysis of 14 486 participants in 63 studies with a median follow-up of 12 months, CR led to reductions of 26% in cardiovascular mortality and 18% in the risk of hospital admissions.⁵ This impact on the natural history of coronary atherothrombosis is due to the protective effects of exercise on lipid profile, blood pressure, inflammation and thrombogenic potential.⁶

Despite their demonstrated and extensive benefits,^{5,7} exercise-based CR programs are clearly underused, due

to patient-related, physician-related and health system-related factors.⁸

In their study published in this issue of the *Journal*, Aguiar Rosa et al. assessed the predictors of improved functional capacity in 129 patients who participated in a CR program following ACS and who underwent cardiopulmonary exercise testing (CPET) at baseline and after 36 exercise training sessions.⁹

Among CPET parameters, peak oxygen uptake (pV_{O_2}) <20 ml/kg/min compared to $pV_{O_2} \geq 20$ ml/kg/min was associated with a significantly greater range of improvement in pV_{O_2} (+4.4 vs. +1.6; $p=0.018$), in percentage of predicted pV_{O_2} (+17.9% vs. +4.0%; $p=0.009$) and in pV_{O_2} times systolic pressure at peak exercise (+883.3 vs. 238.5 mmHg.ml/kg/min; $p=0.015$) between baseline and after CR. Depressed or moderately impaired left ventricular ejection fraction was not associated with greater benefit from CR as assessed by improvement in functional capacity.

The rate of recurrence of major vascular events was low in a mean follow-up of five years, with annual mortality of 0.9% and annual ACS incidence of 1.2%. This may be explained by the good adherence to medical therapy, control of risk factors and adoption of healthier lifestyles in the study population.

The authors conclude that patients with poor functional capacity identified by CPET, which in their study represented 25% of a heterogeneous group of patients with ACS, will obtain the greatest benefit from CR. A referral strategy based on this parameter could help optimize use of CR facilities, which are in relatively short supply in Portugal.

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Conflicts of interest

The author has no conflicts of interest to declare.

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