
REHABILITATION OF THE COMPLEX CARDIAC PATIENT

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Cardiac rehabilitation (CR) is an important component in the continuum of care for patients with cardiovascular disease (CVD), providing a multidisciplinary education and exercise training (ET) to improve functional capacity (FC), recovery and psychological well-being and reduce morbidity and mortality. CR programs have been given a Class I recommendation from the American Heart Association, the American College of Cardiology and the European Society of Cardiology, with exercise therapy consistently identified as a central element. The development of cardiac rehabilitation aims to individualize programs for stratified patients to maximize clinical benefit and optimize safety.

The large meta-analyses had several inherent limitations, 89% of the included patients were male, middle-aged, and Caucasian. Elderly patients, women and patients with comorbidities (chronic heart failure (CHF), previous stroke, diabetes mellitus, and cancer) were less represented in the analyzed studies of cardiac rehabilitation. It would be necessary to focus on the identification of high-risk patients after acute myocardial infarction.

Progressive aging is associated with the overall number of patients with heart failure and geriatric syndromes (especially frailty and sarcopenia), which represent a serious burden on healthcare systems. Frailty, sarcopenia and CHF share common pathological mechanisms and are associated with poor clinical outcomes. One of the aims of this paper is to emphasize that a more comprehensive assessment of frailty and sarcopenia is important for determining risk in patients with HF. There is a need to better understand these syndromes, with particular attention to the importance of frailty and sarcopenia in the context of cardiac care, including cardiac rehabilitation, where we need to better understand whether exercise-based CR can alter the course and prognosis of frailty and sarcopenia in CVD.

It remains unclear which characteristics of Exercise Training: intensity, duration, frequency, type and volume of physical exercise are most effective in the rehabilitation of complex patients with myocardial infarction. Elderly

patients with sarcopenia are referred to cardiac rehabilitation programs after acute coronary syndrome (ACS), however, rehabilitation plans must be individually tailored to each patient in terms of adequate assessment of functional capacity, nutritional status, comorbidities and cognitive status. Current findings from published studies suggest that a well-designed, progressive CR program, which includes resistance exercise, has a beneficial effect on improving muscle mass and muscle strength. Resistance training should be considered a first-line treatment strategy for the management and prevention of sarcopenia. Although there are many components to optimal resistance training recommendations, exercise intensity, exercise volume, and progression, critical factors deserve careful consideration as they relate to following best practice guidelines.

A better understanding of the mechanistic basis for HF-induced muscle dysfunction can be used to design more effective and sustainable therapeutic strategies, for example, exercise programs, applied across the HF continuum. Global healthcare systems need to ensure the consistency of access to exercise-based rehabilitation for patients with HF as part of their routine care. Dependent on their level of risk and complexity, individual patients should be offered a choice of the mode of ExCR programme - centre, home (with or without digital support), or hybrid.

Key words: cardiac rehabilitation, complex cardiac patient, exercise training

References

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