Cardiac rehabilitation in patients with cardiac resynchronization therapy and implantable cardioverter defibrillator

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Introduction: There is a large body of evidence that supports the positive effect of exercise based cardiac rehabilitation on reducing mortality, hospitalization rate and increasing the quality of life and exercise capacity in patients with heart failure. Also, there is more evidence about the positive effect of cardiac resynchronization therapy (CRT) and implantable cardioverter defibrillator (ICD) in patients with heart failure with reduced ejection fraction and interventricular conduction abnormalities in reducing mortality, increasing quality of life and exercise capacity.[1,2] The aim of this review is to determine the existence of an additive effect of the exercise cardiac rehabilitation program in CRT patients on the increase in functional capacity. Also, the aim of this review is to establish the safety of the exercise based cardiac rehabilitation program in ICD patients regarding to anti-tachycardia pacing, appropriate and inappropriate ICD shocks.

Methods: Systematic review of available scientific literature and discussion of collected data.

Results: CRT therapy, in addition to optimal drug therapy, is a well-established treatment method in patients with heart failure with reduced left ventricular ejection fraction and intraventricular conduction abnormalities. Several randomized controlled studies and meta-analyses have established the association of exercise based cardiac rehabilitation with an additional increase in aerobic exercise capacity measured by VO_2 max and improvement in quality of life in CRT patients.[1] Furthermore, several RCTs and meta-analyses have confirmed an increase in aerobic exercise capacity and quality of life in ICD patients without affecting mortality, serious adverse events, the number of anti-tachycardia pacing, appropriate and inappropriate ICD shocks.[2]

Conclusion: Well-managed exercise based cardiac rehabilitation programs show an additive effect on CRT therapy in increasing aerobic functional capacity and increasing quality of life with a good safety profile without affecting mortality, episodes of anti-tachycardia pacing, appropriate and inappropriate ICD shocks.

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