

CARDIAC REHABILITATION AFTER ACUTE CORONARY SYNDROME IN GERIATRIC PATIENTS

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INTRODUCTION:

With a medium age expectancy of 72 years in Europe, the elderly population is in continuous growth, and the incidence of coronary syndromes is also rising. The survival of the elderly after acute coronary syndromes is higher because of the advanced medical diagnosis techniques and therapeutic options, and so it is important more than ever to include these patients in cardiovascular rehabilitation programs.

MATERIAL AND METHODS:

We analyzed data from the most recent literature, clinical trials and meta-analysis that included elderly patients in cardiac rehabilitation programs after coronary syndromes.

RESULTS:

Every cardiac rehabilitation technique produced a significant reduction in 1-to-5-year mortality. The average number of sessions was 24, but patients who participated in at least 25 sessions of cardiac rehabilitation had a relative reduction of 5-year mortality of 19% compared with those who had less sessions.

The CR-AGE ACS trial evaluated the enhancement of the patient's effort capacity after cardiac rehabilitation. The rehabilitation program consisted of 5 days per week sessions, 30 minutes each, with combined aerobic exercises and cycling, during a total of 4 weeks. The VO₂ peak and maximum effort duration were prolonged at the end of the cardiac rehabilitation program, with values of 5-15% from baseline assessment. The VO₂ peak growth was directly proportional with the number of rehabilitation sessions, and it was independent from the extension of the coronary artery disease or the type of coronary revascularization.

In another trial made by Aurelija Beigiene and al., the groups were randomized into 3 types of programs: standard, intervention 1 and intervention 2. The standard program, consisted of respiratory exercises 15 minutes every day and aerobic exercises on cycle ergometer 6 day per week for a maximum of 30 minutes. Intervention 1 program included also muscle strength exercises with weights and resistance elastic bands, and the intervention 2 program included fitness exercises with mechanical devices. All patients had improvement of all parameters of functional capacity.

CONCLUSIONS:

Cardiovascular rehabilitation in elderly patients after acute coronary syndromes is a very important part of their treatment. Cardiac rehabilitation is safe and efficient in the improvement of functional capacity in the geriatric population, and this improvement is directly proportional with the number of rehabilitation sessions.

REFERENCES:

1. Samuel Baldasseroni – Cardiac Rehabilitation in Advanced aGE after PCI for acute coronary syndromes: predictors of exercise capacity improvement in the CR-AGE ACS study; Aging Clinical and Experimental Research 2022
2. Aurelija Beigiene – Cardiac Rehabilitation and Complementary Physical Training in Elderly Patients after Acute Coronary Syndrome: A Pilot Study; Medicina 2021



Table 2. Effectiveness of cardiac rehabilitation in the groups, evaluating functional capacity and muscle strength.

Parameters	Intervention Group 1 (n = 20)		p*	Intervention Group 2 (n = 20)		p*	Control Group (n = 19)		p*
	T0	T1		T0	T1		T0	T1	
6MWD, m	285 (233; 316)	388 (338; 419.5)	<0.001	348.5 (338.5; 403)	434.5 (392.5; 475.2)	<0.001	319 (224; 436)	420 (350; 468)	<0.001
Peak workload, watt	64 (51; 74.7)	75 (59; 84.5)	<0.001	78.5 (58.2; 93)	93.5 (69.2; 107.7)	<0.001	85 (58; 96)	89 (57; 125)	0.004
Peak VO ₂ , mL/kg/min	9.3 (8.4; 11.1)	11.2 (10.8; 12.3)	0.009	11.8 (9.8; 12.9)	12.3 (9.4; 15.3)	0.093	11.6 (8.3; 15.2)	12.1 (10; 14.3)	0.365
SPPB, score	9 (7.7; 10)	10.5 (9.2; 11.7)	<0.001	10.5 (8.7; 11.2)	11.5 (10; 12)	0.006	9 (8; 10)	11 (8; 12)	<0.001
Leg press 1RM, kg	31.5 (28; 48)	48 (41.2; 56)	<0.001	38 (31.7; 46.2)	55.5 (42.7; 56)	0.001	45 (33; 52)	50 (45; 65)	0.001

Values are medians (interquartile range). * p value by the Wilcoxon test. Bolded numerals indicate statistically significant differences. T0, baseline assessment; T1, assessment after CR; 6MWD, 6-minute walking distance; SPPB, short physical performance battery test; 1RM, one repetition maximum.