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Exercise-Based Cardiac Rehabilitation in post myocardial infarction patients with mid-range ejection fraction

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Heart failure is a major cause of morbidity, mortality and re-hospitalizations and is highly prevalent in myocardial infarction survivors. Cardiac rehabilitation based on exercise training and heart failure self-care counseling have each been shown to improve clinical status and clinical outcomes. We designed our study with aim to evaluate the usefulness of exercise based in house cardiac rehabilitation/ secondary prevention program in patients with heart failure with mid-range ejection fraction (HFmrEF) after myocardial infarction.

Patients and methods: Out of 2753 patients who were admitted to our three weeks in-hospital secondary prevention program – exercised based cardiac rehabilitation, we analyze a total of 219 patients who were admitted early after coronary revascularization (percutaneous coronary interventions or coronary bypass surgery) with HFmrEF. The majority of patients were males (68%). Risk factors and co morbidities were noted. Patients were selected for exercise training after six minute walking test or exercise stress test (cardiopulmonary dominantly to evaluate unexpected exertional

dyspnea). After 3 weeks in house cardiac rehabilitation the patients were re-tested.

Results: The major comorbidities in our patient population were as follows: hypertension, diabetes and dyslipidemia. Six minutes walking test was performed and the total distance walked ranged from 120 to 480 meters and the beginning of the program. Patient had 7 -days a week training program. After the 3 weeks in hospital exercise rehabilitation the improvement in the test was ~32%. Cardiopulmonary test showed also improvement of functional capacity. We noted several rhythm disturbance complications by telemetry (VES, SVES). None had acutisation of heart failure (with peripheral edema and congestion). All patients fulfilled cardiac rehabilitation program.

Conclusions: Supervised multidisciplinary cardiac rehabilitation program, including an individualized exercise component is effective and can improve functional status and exercise tolerance in patient with HFmrEF after myocardial infarction.