

Case Report

Effect of Cardiac Rehabilitation on Post-Surgical Coronary Artery Bypass Graft Patient Case Study from Kuwait

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Introduction

Myocardial infarction (MI), known as heart attack is caused by decreased or complete cessation of blood flow to a portion of the myocardium. Myocardial infarction may be silent and go undetected or it could be a catastrophic event leading to hemodynamic deterioration and sudden death. Most myocardial infarctions are due to underlying coronary artery disease, the first cause of death in Kuwait. With coronary artery occlusion, the myocardium is deprived of oxygen. That can lead to myocardial cell death and necrosis. Patients can present with chest discomfort or pressure that can radiate to the neck, jaw, shoulder, or arm.

Case Presentation

An 45 years old Kuwaiti male patient diagnosed with ischemic myocardial infraction with hyperlipidaemia and hypertension since two years. Patient underwent PCI in 2022 then admitted year after 2023 with clinical presentation Short of breath, angina and fatigue. After diagnostic PCI patient underwent CABG surgery. Then he Referred to cardiac rehabilitation after one month to improve physical activity and cardiorespiratory endurance.

Physical examination

| | LVEF% | MET stress Test | Rate perceived exertion scale |
|-----------------------------|-------|-----------------|-------------------------------|
| Pre cardiac rehabilitation | 45% | 7 | 2/10 |
| Post cardiac rehabilitation | 55% | 12 | 0/10 |

Plan of treatment

According to British cardiac rehabilitation FIIT guidelines 18 sessions given including aerobic exercise 30 till 60 mint cycling , TM , hand ergometer and cross trainer exercise intensity 40%

to 70% from max heart rate 3 time per week. Strengthen exercise 12 reps 3 sets given 3 time per day. Home programme given to be performed in home daily with self-heart rate monitor.

Problems list

1. Patient unable to walk more than 15 mint daily outdoor due to reduce cardiorespiratory endurance and reduce cardi ejection fraction LVEF%.
2. Patient unable to use stairs first floor at home daily Due to reduce cardiorespiratory Endurance and cardi workload.
3. Reduce physical daily activity and Quality of life.

Short goals

1. To improve cardiorespiratory Endurance.
2. To improve cardi workload and LVEF%
3. To improve MET.
4. To improve physical daily activity.

Long goals

1. To reduce risk of hospitalization.
2. To reduce risk mortality and morbidity.

After discharge

After 18 sessions from cardiac rehabilitation during 3 months in Kuwait. Patient able to do 60 mints daily and using home stairs 2 floor comfortably without short of breath or chest pain. Hypertension controlled and he be come Non dyslipidaemia with MET 12 preformed in stress test in Kuwait after 3 months. Echo after discharge done with result LVEF 55%.

Recommendation

Cardiac rehabilitation after post-surgical coronary artery bypass needed for patient to improve physical activity and performance , left ventricular function LVEF% , MET and daily activity life.

References

1. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK537076/>
2. Available from: <https://www.bacpr.org/education-courses/physical-activity-exercise>

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