Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Effect of cardiac rehabilitation on myocardial performance index in patients undergoing coronary artery bypass surgery: A before and after clinical trial

Protocol summary

Summary

Objectives: To assess the effect of cardiac rehabilitation on myocardial performance index in patients undergoing coronary artery bypass surgery. Design: a before and after clinical trial. Setting and conduct: Eligible patients who are candidate for coronary artery bypass surgery and will refer to the Ekbatan Hospital during the study period will be enrolled in to the trial. Inclusion criteria: candidate for coronary artery bypass surgery. Exclusion criteria: (a) congenital musculoskeletal deformity; (b) acquired musculoskeletal deformity; (c) severe left ventricular dysfunction. Intervention: physiotherapy for 45 min for 30 sessions including 30 min walking on treadmill at a low speed, 10 min stationary cycling at a low speed, and 5 min stretching exercises. Control: comparison with the patients' condition before surgery. Primary outcome: Assessing the myocardial performance index before surgery and after cardiac rehabilitation using echocardiography. Secondary outcome: Assessing the ejection fraction before surgery and after cardiac rehabilitation using echocardiography.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201409289014N40**
Registration date: **2014-10-07, 1393/07/15**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2014-10-07, 1393/07/15

Registrant information

Name

Jalal Poorolajal

Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

Country

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Recruitment status

Recruitment complete

Funding source

Vice-chancellor for Research the Technology, Hamadan University of Medical Sciences

Expected recruitment start date

2013-05-20, 1392/02/30

Expected recruitment end date

2014-03-20, 1392/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of cardiac rehabilitation on myocardial performance index in patients undergoing coronary artery bypass surgery: A before and after clinical trial

Public title

Effect of cardiac rehabilitation on myocardial performance index in patients undergoing coronary artery bypass surgery

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: candidate for coronary artery bypass surgery. Exclusion criteria: (a) congenital musculoskeletal deformity; (b) acquired musculoskeletal deformity; (c) severe left ventricular dysfunction.

Age
No age limit

Gender
Both

Phase
2

Groups that have been masked
No information

Sample size
Target sample size: **65**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research Ethic Committee of Hamadan University of Medical Sciences

Street address
Vice-chancellor of Research the Technology, Hamadan University of Medical Sciences, Shahid Fahmideh Ave

City
Hamadan

Postal code
6517838695

Approval date
2013-05-19, 1392/02/29

Ethics committee reference number
D/P/16/35/9/711

Health conditions studied

1

Description of health condition studied
coronary artery bypass surgery

ICD-10 code
T82.2

ICD-10 code description
Mechanical complication of coronary artery bypass and valve grafts

Primary outcomes

1

Description
Assessing the myocardial performance index

Timepoint
before surgery and after cardiac rehabilitation

Method of measurement
using echocardiography

Secondary outcomes

1

Description
Assessing the ejection fraction

Timepoint
before surgery and after cardiac rehabilitation

Method of measurement
using echocardiography

Intervention groups

1

Description
physiotherapy for 45 min for 30 sessions including 30 min walking on treadmill at a low speed, 10 min stationary cycling at a low speed, and 5 min stretching exercises.

Category
Treatment - Other

2

Description
comparison with the patients' condition before surgery.

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Ekbatan Hospital

Full name of responsible person
Dr Hamid Reza Majidian

Street address
Ekbatan Hospital, Jahad Square

City
Hamadan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice-chancellor for Research the Technology, Hamadan University of Medical Sciences

Full name of responsible person

Dr Saeid Bashirian

Street address

Hamadan University of Medical Sciences, Shahid Fahmideh Ave

City

Hamadan

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Vice-chancellor for Research the Technology, Hamadan University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Ekbatan Hospital

Full name of responsible person

Dr Hamid Reza Majidian

Position

Resident of Cardiology

Other areas of specialty/work

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Person responsible for updating data

Contact

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty