Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

The effect of moderate resistance training on lymphocytes ABCA1 gene expression and some of the heart function parameters among male patients with coronary artery disease

Protocol summary

Summary

The purpose of this study was to assess the effect of moderate resistance training on lymphocyte cells ABCA1 gene expression and heart function in male with coronary artery diseases. Thirty males with coronary artery disease who did not have any experiences in physical activities volunteered to participate in this study and assigned non randomly into control (n=15) and experimental groups (n=15). Twenty three of all candidates – eleven subjects in control and twelve subjects in experimental group - accepted and participated in our program training until the end of the study. All of subjects of experimental group should do moderate resistance training with 40-60% intensity of one repetition Maximum (1RM), for 60 minutes at three sessions in a week for eight weeks; while all of members of control group should not have any physical activity or training. Blood sample of subjects will be collected before and after training. Lymphocyte cells will be separated and m-RNA purification will be performed by Real–Time PCR. Heart function will be measured by Electrocardiography.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016050827803N1**
Registration date: **2016-09-22, 1395/07/01**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2016-09-22, 1395/07/01

Registrant information

Name

Alireza Hajighasemi

Name of organization / entity

Education System Institute

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2016-06-21, 1395/04/01

Expected recruitment end date

2016-07-22, 1395/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of moderate resistance training on lymphocytes ABCA1 gene expression and some of the heart function parameters among male patients with coronary artery disease

Public title

The effect of cardiac rehabilitation on reverse cholesterol transport

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Coronary artery male patients

(Atherosclerosis)" without any training experience. Exclusion criteria: Coronary artery male patients (Atherosclerosis)" that cannot participate in 8-week moderate resistance training or do not have regular participation in exercise.

Age
From **45 years** old to **66 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **23**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
The method of sampling was non-randomized.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Sport Sciences Research Institue of IRAN

Street address
NO 3, 5th alley, Miremad Ave, Tehran

City
Tehran

Postal code
00982188023486

Approval date
2016-07-19, 1395/04/29

Ethics committee reference number
IR.SSRI.REC.1395.110

Health conditions studied

1

Description of health condition studied
Atherosclerosis

ICD-10 code
125.1

ICD-10 code description
Atherosclerotic heart disease

Primary outcomes

1

Description
Apolipoprotein A1

Timepoint
48 hours before intervention and two months after intervention

Method of measurement
ELISA Test

2

Description
ATP-binding cassette transporter A1 (ABCA1) Gene

Timepoint
48 hours before intervention and two month after intervention

Method of measurement
Polymerase chain reaction (PCR) Method

3

Description
High-density lipoprotein (HDL)

Timepoint
48 hours before intervention and two month after intervention

Method of measurement
Colorimetric Method

4

Description
Low-density lipoprotein (LDL)

Timepoint
48 hours before intervention and two month after intervention

Method of measurement
Colorimetric Method

5

Description
Heart function

Timepoint
48 hours before intervention and two month after intervention

Method of measurement
Echocardiography

Secondary outcomes

1

Description
-

Timepoint
-

Method of measurement
-

Intervention groups

1

Description
Intervention group: in moderate resistance training group, all subjects should participate in moderate resistance training with 40-60% intensity of one repetition Maximum (1RM) through 60-minute sessions, three times a week, for eight weeks.
Category
Rehabilitation

2

Description
Control group: in non training group, all subjects do not participate in any physical activity or training.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Javad Al Aemeh Heart Hospital
Full name of responsible person
Rashid Lamir Dr
Street address
Javad Al Aemeh Heart Hospital, 2 Alley, Honarestan St., Vakill Abad Blvd, Mashhad
City
Mashad

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
-
Full name of responsible person
-
Street address
-
City
-
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
-
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
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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