

Clinical Trial Protocol

Iranian Registry of Clinical Trials

15 Jul 2026

The influence of aerobic exercise on serum Brain Natriuretic Peptide and C- Reactive Protein in cardiovascular disease

Protocol summary

Summary

The purpose of this study was to investigate the effects of 8 weeks of aerobic exercise on serum concentrations of Brain Natriuretic Peptide and C - reactive protein in patients with cardiovascular disease. Patients were divided randomly into two groups: control and experimental aerobic group. This study was done with two - stage blood sampling: at the beginning and at the end of the treatment phase. All subjects were requested to refrain any exercise at least 48 hours before blood sampling. To study Brain Natriuretic Peptide and C - reactive protein changes, 5 ml of blood was taken from patient's brachial vein. Blood samples for subsequent measurement were frozen immediately and transported to the Hormone Laboratory for serum separation. The experimental group did the aerobic exercise programs for 8 weeks for 3 sessions per week and the control group did not receive any training. After completion of training, the final blood sampling was performed. Exercise intensity according to the heart rate remained stable in until last week. Brain Natriuretic Peptide and C - reactive protein levels were measured by ELISA test. All statistical analysis were done using SPSS software (version 16) and at the significance level of $p \leq 0/05$.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014011316209N1**

Registration date: **2015-05-20, 1394/02/30**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-05-20, 1394/02/30

Registrant information

Name

Mohammadali Ostovan

Name of organization / entity

Shiraz University of Medical Science

Country

Iran (Islamic Republic of)

Phone

+98 71 3612 5609

Email address

ostovanm@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Science

Expected recruitment start date

2013-07-21, 1392/04/30

Expected recruitment end date

2014-07-20, 1393/04/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The influence of aerobic exercise on serum Brain Natriuretic Peptide and C- Reactive Protein in cardiovascular disease

Public title

Aerobic exercise in cardiovascular disease

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: In this trial patients with coronary artery disease more than 70 percent at least in one coronary vessel with Ejection Fraction more than 40 percent in recent Echo cardiograph without acute evidence of

ischemia or congestive heart failure symptoms were selected and are divide randomly into two groups. exclusion criteria:patients with acute evidence of ischemia or congestive heart failure symptoms are excluded.

Age

From **40 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Shiraz University of Medical Sciences

Street address

Shiraz University of Medical Science, Zand street, Shiraz, Fars, Iran

City

Shiraz

Postal code

71348-14336

Approval date

2014-01-04, 1392/10/14

Ethics committee reference number

CT-P-92-6517

Health conditions studied**1****Description of health condition studied**

Cardiovascular

ICD-10 code

I51.6

ICD-10 code description

Disease, diseased - cardiovascular

Primary outcomes**1****Description**

Brain Natriuretic Peptide

Timepoint

Before intervention and 2 months after intervention

Method of measurement

ELISA

2**Description**

C- Reactive Protein

Timepoint

Before intervention and 2 months after intervention

Method of measurement

ELISA

Secondary outcomes**1****Description**

Heart rate

Timepoint

At the beginning and at the end of 8 weeks

Method of measurement

Electrocardiogram

2**Description**

Blood pressure

Timepoint

At the beginning and at the end of 8 weeks

Method of measurement

Sphygmomanometer

Intervention groups**1****Description**

Aerobic exercise instruments: ergo meter bicycle 60-55% of their target heart rate 3 sessions per week

Category

Prevention

2**Description**

In this group, no intervention is done.

Category

N/A

Recruitment centers**1****Recruitment center**

Name of recruitment center

Shahid Faghihi Hospital, Cardiac Rehabilitation
Department

Full name of responsible person

Najmeh Sheykhiyan

Street address

Shiraz University of Medical Science, Zand street,
Shiraz, Fars, Iran

City

Shiraz

Phone

+98 71 3235 7282

Fax**Email**

ysheykheyah.mh@gmail.com; ostovanm@gmail.com

Web page address**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Shiraz University of Medical Science

Full name of responsible person

Mohammadali Ostovan

Position

Associate Professor

Other areas of specialty/work**Street address**

Cardiac Department, Namazi Square, Zand street,
Shiraz, Fars, Iran

City

Shiraz

Postal code

71937-11351

Phone

+98 71 3626 2011

Fax**Email**

ostovanm@gmail.com

Web page address**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Vice chancellor for research, Shiraz University of
Medical Sciences

Full name of responsible person

Dr.Ali Poostforoosh

Street address

Shiraz University of Medical Science, Zand street,
Shiraz, Fars, Iran

City

Shiraz

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, Shiraz 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**

Shiraz University of Medical Science

Full name of responsible person

Najmeh Sheykhiyan

Position

M.A of Physical Education

Other areas of specialty/work**Street address**

Shiraz University of Medical Science, Zand street,
Shiraz, Fars, Iran

City

Shiraz

Postal code**Person responsible for updating data****Contact****Name of organization / entity**

Shiraz University of Medical Science

Full name of responsible person

Najmeh Sheykhiyan

Position

M.A of Physical Education

Other areas of specialty/work**Street address**

Shiraz University of Medical Science, Zand street,
Shiraz, Fars, Iran

City

Shiraz

Postal code**Phone****Fax****Email**

ysheykheyah.mh@gmail.com; ostovanm@gmail.com

Web page address**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