

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 May 2026

The effect of high dose vitamin C on biochemical markers of myocardial injury in coronary artery bypass surgery

Protocol summary

2016-08-15, 1395/05/25

Summary

Objective: to determine the effect of vitamin C in high doses on myocardial injury and cardiac enzyme levels in the patients undergoing open heart surgery. Study design: Randomized double-blind, Clinical Trial. Inclusion criteria: Patients undergoing CABG, completed consent form. Exclusion criteria: history of preoperative arrhythmia; heart ejection fraction less than 30%; severe renal or hepatic failure; pacemaker, permanent or temporary, treatment with anti-arrhythmic drugs and digoxin; some degree of AV block or bradycardia with a heart rate less than 50 min; a history of recent myocardial infarction (less than one month); high initial troponin levels (> 0.3 macro gram per liter), re-operation (redo) or complex (valve replacement + CABG). Intervention: 40 patients undergoing open heart surgery were divided into two groups. Patients in Group A received five grams of vitamin C intravenously before induction of anesthesia and five grams of vitamin C in cardioplegia solution. Group B is considered as control group and received the same amount of a placebo. Arterial blood samples will be taken to determine the serum levels of CPK-MB, Troponin I, LDH at the following intervals: induction, termination of cardiopulmonary bypass, 6 hours after the procedure, 24 hours of operation

Registrant information

Name

Farzaneh Masihi

Name of organization / entity

Country

Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Shiraz University of Medical Science

Expected recruitment start date

2016-03-20, 1395/01/01

Expected recruitment end date

2016-06-21, 1395/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016053019470N33**

Registration date: **2016-08-15, 1395/05/25**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

Scientific title

The effect of high dose vitamin C on biochemical markers of myocardial injury in coronary artery bypass surgery

Public title

The effect of vitamin C on myocardial injury in coronary artery bypass surgery

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: Patients undergoing CABG, completed consent form. Exclusion criteria: history of preoperative

arrhythmia; heart ejection fraction less than 30%; severe renal or hepatic failure; pacemaker, permanent or temporary, treatment with anti-arrhythmic drugs and digoxin; some degree of AV block or bradycardia with a heart rate less than 50 min; a history of recent myocardial infarction (less than one month); high initial troponin levels (> 0.3 macro gram per liter), re-operation (redo) or complex (valve replacement + CABG).

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 50

Randomization (investigator's opinion)

Randomized

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

Double blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features

block randomization.com was used for randomization

Secondary Ids

empty

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

Ethics committee of Shiraz University of Medical Sciences

Street address

Vice Chancellor of research, Shiaz University of Medical Sciences, 7th floor, central building of Shiraz University of Medical Sciences, Zand street

City

Shiraz

Postal code**Approval date**

2010-08-20, 1389/05/29

Ethics committee reference number

IR.SUMS.Med.RED.1395.24

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

coronary artery heart disease

ICD-10 code

125.1

ICD-10 code description

Atherosclerotic heart disease

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

to determine the serum levels of CPK-MB, Troponin I, LDH

Timepoint

at the induction, termination of cardiopulmonary bypass, 6 hours after the procedure, 24 hours of operation

Method of measurement

Arterial blood samples

Secondary outcomes

empty

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

Patients in Group A received five grams of vitamin C intravenously before induction of anesthesia and five grams of vitamin C in cardioplegia solution

Category

Treatment - Drugs

2**Description**

Group B is considered as control group and received the same amount of a placebo.

Category

Treatment - Drugs

Recruitment centers**1****Recruitment center****Name of recruitment center**

MRI Hospital

Full name of responsible person

Nafiseh Emadi

Street address

MRI Hospital, Chamran BLV.

City

Shiraz

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Vice Chancellor for Research, Shiaz University of

Medical Sciences

Full name of responsible person

Dr Seed Basir Hashemi

Street address

Vice chancellor of research,7th floor of central building of Shiraz University of Medical Sciences ,Zand streetl

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, Shiaz 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 Sciences

Full name of responsible person

Nafiseh Emadi

Position

Perfusionist

Other areas of specialty/work

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Anesthesiologist

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Person responsible for updating data

Contact

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Shiraz anesthesiology and critical care research center

Full name of responsible person

Farzaneh Masihi

Position

English Consultant

Other areas of specialty/work

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Shiraz Anesthesiology and Critical Care Research Center, Research Tower, 5 th floor, Khalili street

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Fax

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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