

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jul 2026

The effect of aortic root injection of adenosine on myocardial protection in patients undergoing coronary artery bypass surgery

Protocol summary

Registration timing: **registered_while_recruiting**

Summary

Objective: To investigate the effect of aortic root injection of adenosine on myocardial protection in patients undergoing coronary artery bypass graft surgery

Study design: double blinded randomized clinical trial.

Inclusion Criteria All CAD patients candidate for coronary artery bypass surgery(CABG) in Shiraz hospitals; completing the consent form for participation in the study. Exclusion criteria: Ejection Fraction less than 40%; over 70 years of age; using a balloon pump (IABP); receiving preoperative inotrope; redo -surgeries; combined surgery; emergency surgery; pulmonary disease; chronic atrial fibrillation; chronic arrhythmia treatment. Methods: 52 patients are divided into two groups of 26patients. After sternotomy and grafting , cannulation is performed. Aorta is clamped, 12 mg adenosine is injected through the cardiopulmonary cannula and cold blood cardioplegia solution with antigrad method will be injected. And in the control group (B), they receive the same amount of placebo before the injection of the cardioplegia solution. The cardiac immobilization time from the onset of cardioplegia solution injection to cardiac asystol will be recorded. After aortic declamping, we record the momentum of the beat of the heart. Arterial blood samples are taken for determining the serum level of CPK-MB enzymes, troponin I, at the induction of anesthesia 6, 12, and 24 hours after surgery. Arrhythmia, type and dose of inotropes, homodynamic changes (systolic and diastolic pressure, mean arterial pressure) heart rate, and mechanical ventilation time at 6 and 24 hours after surgery will be recorded.

Last update:

Update count: **0**

Registration date

2017-08-08, 1396/05/17

Registrant information

Name

Farzaneh Masihi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 71 3647 4270

Email address

masihif@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research , Shiraz University of Medical Sciences

Expected recruitment start date

2017-08-02, 1396/05/11

Expected recruitment end date

2018-02-20, 1396/12/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017013019470N51**

Registration date: **2017-08-08, 1396/05/17**

Scientific title

The effect of aortic root injection of adenosine on myocardial protection in patients undergoing coronary artery bypass surgery

Public title

The effect of aortic root injection of adenosine on myocardial protection in patients undergoing coronary artery bypass surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion Criteria All CAD patients candidate for coronary artery bypass surgery(CABG) in Shiraz hospitals; completing the consent form for participation in the study. Exclusion criteria: Ejection Fraction less than 40%; over 70 years of age; using a balloon pump (IABP); receiving preoperative inotropes; redo -surgeries; combined surgery; emergency surgery; pulmonary disease; chronic atrial fibrillation; chronic arrhythmia treatment.

Age

To 70 years old

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: 52

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

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

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

City

Shiraz

Postal code

Approval date

2016-09-25, 1395/07/04

Ethics committee reference number

IR.SUMS.REC.1395.116

Health conditions studied

1

Description of health condition studied

Coronary Artery Bypass Surgery

ICD-10 code

I25.1

ICD-10 code description

Atherosclerotic heart disease

Primary outcomes

1

Description

the serum level of CPK-MB enzymes, troponin I

Timepoint

at the induction of anesthesia 6, 12, and 24 hours after surgery

Method of measurement

Arterial blood sample

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: 12 mg adenosine is injected through the cardiopulmonary cannula and cold blood cardioplegia solution with antigrad method will be injected.

Category

Treatment - Drugs

2

Description

control group: Patients will be taken 5 cc normal saline before the injection of the cardioplegia solution.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Namazi Hoptioal

Full name of responsible person

Behrooz Moslemi

Street address

Namazi Hoptioal, Namazi Square

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research, Shiraz 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 street

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 Sciences

Full name of responsible person

Behrooz Moslemi

Position

Nurse

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Position

MS in english teaching ,BS in anesthesia/English Consultant

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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