Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Jul 2026

The effect of preconditioning of sevofluran in coronary artery bypass surgery

Protocol summary

Summary

Objective: Decrease inotrope uses to exit the bypass pump; Reduce the incidence of transient cardiac ischemia after surgery; Reduce ICU staying. Design: Randomized single-blind clinical trial. Setting and conduct and intervention:In all patient induction(sufentanil, cis-atracurium and etomidate) and maintenance phase(sufentanil, midazolam, cis-atracurium) of anesthesia will be considered with the same protocol. After cross-clamp of aorta in intervention group, the patient will receive oxygen (2Lit/min) and sevofluran(4%) during coronary bypass surgery. After rewarming of the patients, sevofluran will be omitted. Inclusion criteria: All elective coronary bypass surgery in patients 40 to 80 years old. Exclusion criteria: AV block(mobitz2); complete Heart block; LBBB; Acute heart failure(EF<30); Reexploration after surgical complications ; MI in last 7 days ago. Main outcome measures(variables) : The effect of sevofluran on preconditioning of heart during CABG will be evaluated with checking troponin and heart nuclear scan.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016061528477N1**
Registration date: **2016-08-02, 1395/05/12**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2016-08-02, 1395/05/12

Registrant information

Name

Sina Ofoghie Rezaei

Name of organization / entity

Bushehr University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for research of Boushehr University of Medical Sciences

Expected recruitment start date

2015-03-21, 1394/01/01

Expected recruitment end date

2017-03-19, 1395/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of preconditioning of sevofluran in coronary artery bypass surgery

Public title

The effect of preconditioning of sevofluran in cardiac ischemia

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: All elective coronary bypass surgery in patients 40 to 80 years old. Exclusion criteria: AV block(mobitz2); complete Heart block; LBBB; Acute heart failure(EF<30); Reexploration after surgical complications ; MI in last 7 days ago.

Age

From **40 years** old to **80 years** old

Gender

Both

Phase

2-3

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

sampling: simple randomize

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Boushehr Medical Scinces University

Street address

Boushehr Medical Scinces University,Sangi,Boushehr

City

Boushehr

Postal code

Approval date

2016-05-16, 1395/02/27

Ethics committee reference number

IR.BPUMS.REC.1395.23

Health conditions studied

1

Description of health condition studied

Preconditioning of heart during coronary artery bypass surgery

ICD-10 code

T82.9

ICD-10 code description

Unspecified complication of cardiac and vascular prosthetic device, implant and graft

Primary outcomes

1

Description

Troponin I blood level

Timepoint

At entrance to ICU and after 4,8,24,48 hours from coronary bypass surgery

Method of measurement

µg/l0.01 SI unit

2

Description

Electrocardiography

Timepoint

ECG changes at entrance to ICU and daily up to 4 days.

Method of measurement

Electrocardiography device

3

Description

Nuclear heart scan

Timepoint

3 nuclear heart scan befor CABG and 1 and 6 month after surgery.

Method of measurement

SPECT-CT Scan

Secondary outcomes

1

Description

Systolic blood pressure

Timepoint

Before anesthesia induction, one minute after off pump, one hour after off pump, 8 and 24 hour after surgery

Method of measurement

Heart Monitoring

2

Description

Diastolic blood pressure

Timepoint

Before anesthesia induction, one minute after off pump, one hour after off pump, 8 and 24 hour after surgery.

Method of measurement

Heart Monitoring

3

Description

Mean arterial pressure

Timepoint

Before anesthesia induction, one minute after off pump, one hour after off pump, 8 and 24 hour after surgery.

Method of measurement

Heart Monitoring

4

Description
Heart rate
Timepoint
Before anesthesia induction, one minute after off pump, one hour after off pump, 8 and 24 hour after surgery.
Method of measurement
Heart Monitoring

Intervention groups

1

Description
Intervention: after induction of anesthesia in intervention group, the patient will receive oxygen (2Lit/min) and sevofluran(4%) during coronary bypass surgery.
Category
Treatment - Drugs

2

Description
Control: after induction of anesthesia in control group, the patient will receive oxygen(2Lit/min).
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Cardiac Center of Boushehr
Full name of responsible person
Dr.Anvaripour
Street address
Cardiac Center of Boushehr
City
Boushehr

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Boushehr Medical Scinces University
Full name of responsible person
Afshin Ostovar
Street address
Bushehr Medical Scinces University,Sanggi,Bushehr
City
Boushehr
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Boushehr Medical Scinces University
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
Boushehr Medical Scinces University
Full name of responsible person
Dr.Anvaripour
Position
Anesthesia Department Assisstance
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Web page address

Person responsible for updating data

Contact
Name of organization / entity

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Full name of responsible person

Dr.Anvaripour

Position

Anesthesia Department Assisstance

Other areas of specialty/work

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Phone

+98 77 3345 0178

Fax

Email

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