# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

17 Sep 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)

**Phone**

+98 44 3336 3930

**Email address**

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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
**Other areas of specialty/work**
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sina_rezaei_70@yahoo.com
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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*