

Clinical Trial Protocol

Iranian Registry of Clinical Trials

06 Jul 2026

Predictive effect of central venous pressure changes from passive leg elevation in homodynamic stability during anesthesia induction in adult cardiac surgery

Protocol summary

Summary

Objective: Studying the predictive effect of central venous pressure changes from passive leg elevation in homodynamic stability during anesthesia induction in adult cardiac surgery Design: Prospective randomized clinical trial Setting and conduct: One hundred and twenty adult patients candidate for elective cardiac surgery, randomly will be allocated in two study and control groups (N=60). Using local anesthesia, arterial and central venous catheters placed and invasive arterial and central venous blood pressures will be monitored. Anesthesia will be induced using fentanyl, midazolam and cisatracurium. In study group patients, passive leg elevation (30-45 degrees) maneuver will performed one minute before anesthesia induction and got back to normal position, 12-15 minutes later. In control group anesthesia induction is performed in supine position. Invasive arterial and central venous pressures will be recorded one minute before and after induction, 5, 10 and 20 minutes after tracheal intubation. Hypotension below 100 mmHg will be treated using ephedrine 10 mg. At the end the arterial and central venous blood pressures changes within and between groups will be compared and predictive effect of central venous blood pressures changes after passive leg elevation maneuver on homodynamic stability will be calculated. Inclusion criteria: Patients between 18-70 Years olds who are candidate for elective cardiac surgery Exclusion criteria: Urgent surgery; redo surgery; non-cardiac disease (diabetes, hepatic and renal); Left Ventricular EF less than 40 percent; recent acute MI or unstable angina; systolic arterial blood pressures more than 160 mmHg Intervention: Passive leg elevation maneuver before anesthesia induction Outcome measures: Arterial and central venous blood pressures changes

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201410111127N4**

Registration date: **2014-10-18, 1393/07/26**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2014-10-18, 1393/07/26

Registrant information

Name

Eissa Bilehjani

Name of organization / entity

Tabriz University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research of Tabriz University of Medical Sciences

Expected recruitment start date

2014-11-20, 1393/08/29

Expected recruitment end date

2015-08-20, 1394/05/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Predictive effect of central venous pressure changes from passive leg elevation in homodynamic stability during anesthesia induction in adult cardiac surgery

Public title

Predictive effect of central venous pressure changes from passive leg elevation in homodynamic stability during anesthesia induction in adult cardiac surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Patients between 18-70 Years olds who are candidate for elective cardiac surgery Exclusion criteria: Urgent surgery; redo surgery; non-cardiac disease (diabetes, hepatic and renal); Left Ventricular EF less than 40 percent; recent acute MI or unstable angina; systolic arterial blood pressures more than 160 mmHg

Age

From **18 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **120**

Randomization (investigator's opinion)

Randomized

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**

Tabriz University of Medical Sciences

Street address

Golgasht, Daneshgah Street, Tabriz

City

Tabriz

Postal code**Approval date**

2013-10-19, 1392/07/27

Ethics committee reference number

92215

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

Drug induced hypotension in anesthesia induction

ICD-10 code

I95.2

ICD-10 code description

Hypotension due to drugs

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

Central venous blood pressure changes after passive leg elevation maneuver

Timepoint

One, five, ten and twenty minutes after 5, 10 and 20 minutes after tracheal intubation

Method of measurement

Invasive central venous blood pressures measurement using electronic monitor

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

Arterial blood pressure changes after passive leg elevation maneuver

Timepoint

One, five, ten and twenty minutes after 5, 10 and 20 minutes after tracheal intubation

Method of measurement

Invasive arterial venous blood pressures measurement using electronic monitor

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

Intervention group: Passive leg elevation maneuver before anesthesia induction

Category

Treatment - Other

2**Description**

Control group: Anesthesia induction in supine position

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Madani Heart Hospital

Full name of responsible person

Eissa Bilehjani

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Madani Heart Center, Daneshgah Street, Tabriz

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research of Tabriz University of Medical Sciences

Full name of responsible person

Mohammad Reza Rashidi

Street address

Tabriz University of Medical Sciences, Daneshgah Street, Tabriz

City

Tabriz

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 of Tabriz 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

Medicine faculty, Tabriz University of Medical Sciences

Full name of responsible person

Hassan Soleiman Pour

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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