

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 May 2026

The comparison the effects of propofol and isoflurane on the gradient between arterial and end-tidal carbon dioxide pressure following one-lung ventilation in thoracic surgery.

Protocol summary

Summary

Purpose of the study: A double-blind, clinical trial, with block randomization design, on the comparison of the effects of propofol and isoflurane on the gradient between arterial and end-tidal carbon dioxide pressure following one-lung ventilation in thoracic surgery. Study population: ASA I and ASA II patients aged between 18 and 40 years, undergoing elective thoracotomy for lung surgery or cystectomy under OLV. Inclusion criteria: 1) Aged 18-75 years; 2) sustaining ASA I and ASA II; and 3) consent to thoracic surgery according to OLV under investigation. Exclusion criteria: 1) Liver failure; 2) ischemia or heart valve disease; 3) history of anesthesia; 4) obstructive pulmonary disease with limitation in end-stage; 5) patients with OLV less than 30 minutes; 6) patients whose breath count reached 12 at the onset of anesthesia and before one-lung ventilation; and 7) patients with HRCT, PFT, and pathological lesions in the left lung. Sample: 122. Study Intervention: Propofol and isoflurane anesthesia. The outcome of the study: Evaluation of end-tidal carbon dioxide pressure, arterial carbon dioxide pressure, and tidal blood pressure through capnography, pulse oximetry, and radial artery catheter, respectively, monitoring depth of anesthesia with BIS 10 and 20 minutes after the intervention, and comparison of the obtained results.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015123013159N8**

Registration date: **2016-01-12, 1394/10/22**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2016-01-12, 1394/10/22

Registrant information

Name

Shima Sheybani

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 51 3764 7230

Email address

sheybanish@mums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research, Mashhad University of Medical Sciences

Expected recruitment start date

2016-02-20, 1394/12/01

Expected recruitment end date

2017-02-19, 1395/12/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The comparison the effects of propofol and isoflurane on the gradient between arterial and end-tidal carbon dioxide pressure following one-lung ventilation in thoracic surgery.

Public title

The comparison of effects of drug in thoracic surgery

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: 1) Aged 18-75 years; 2) sustaining ASA I and ASA II; and 3) consent to thoracic surgery according to OLV under investigation. Exclusion criteria: 1) Liver failure; 2) ischemia or heart valve disease; 3) history of anesthesia; 4) obstructive pulmonary disease with limitation in end-stage; 5) patients with OLV less than 30 minutes; 6) patients whose breath count reached 12 at the onset of anesthesia and before one-lung ventilation; and 7) patients with HRCT, PFT, and pathological lesions in the left lung.

Age

From **18 years** old to **75 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **122**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Mashhad University of Medical Sciences

Street address

Vice Chancellor for Research, Mashhad University of Medical Sciences, Ghoreishi building, Daneshgah Street

City

Mashhad

Postal code

Approval date

2015-11-01, 1394/08/10

Ethics committee reference number

IR.MUMS.fm.REC.1394.372

Health conditions studied

1

Description of health condition studied

One-lung ventilation in thoracic surgery

ICD-10 code

J98.8

ICD-10 code description

Other specified respiratory disorders

Primary outcomes

1

Description

Evaluation of end-tidal carbon dioxide pressure

Timepoint

10 and 20 minutes after intervention

Method of measurement

Capnography; mm Hg

Secondary outcomes

1

Description

Evaluation of arterial carbon dioxide pressure

Timepoint

10 and 20 minutes after intervention

Method of measurement

Pulse oximetry; mm Hg

Intervention groups

1

Description

Control group: 100 µg/kg/min anesthetic propofol before thoracic surgery

Category

Treatment - Drugs

2

Description

Intervention group: 0.01 µg/kg/min anesthetic isoflurane before thoracic surgery

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Ghaem Hospital

Full name of responsible person

Shima Sheybani

Street address

Ghaem Hospital, Ahmadabad Avenue

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Mashhad

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research, Mashhad University of Medical Sciences

Full name of responsible person

Mohsen Tafaghodi

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Vice Chancellor for Research, Mashhad University of Medical Sciences, Ghoreishi building, Daneshgah Street

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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, Mashhad 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**

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Full name of responsible person

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Position

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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