

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jun 2026

Comparison between continuous lung ventilation at low minute volume and non-ventilation during pumping in oxygenation and extubation in patients undergoing coronary bypass surgery

Protocol summary

Summary

Objective: Comparison between continuous lung ventilation at low minute volume and non-ventilation during pumping in oxygenation and extubation in patients undergoing coronary bypass surgery. Design: Randomized, single blind (researchers were unaware), Target sample size: 30 People from patients undergoing coronary bypass surgery. The main inclusion criteria: Male and female candidates for elective coronary artery bypass surgery; Consent to participate in the study; The age range of 40-75 years; Body mass index (BMI) less than 30. The main exclusion criteria: Underlying lung disease; Previous history of diabetes; Pulmonary blood pressure; Grade 2 (or higher) diastolic dysfunction; previous history of surgery or CABG surgery; Ejection fraction (EF) less than 30%; Pumping time more than 2 hours; Long ventricular fibrillation or prolonged heart massage during surgery; Other factors causing prolonged ventilation. Intervention group: Patients with continuous ventilation of the lungs with low minute volume, with a tidal volume of 4 ml/ kg and a respiratory rate of 12 per minute during cardiopulmonary bypass pump. Control group: Patients without ventilation, after connecting to cardiopulmonary bypass pump, oxygen and ventilation are disconnected and oxygenation of the patient's blood occurs through a bypass pump (CPB). Primary outcome measure: Oxygen Pressure in arterial blood and Fraction of Inspired Oxygen, Before induction and after intubation and before starting the pump, during and after removal the pump at the end of surgery, by Arterial blood test.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014042513159N4**

Registration date: **2014-05-17, 1393/02/27**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2014-05-17, 1393/02/27

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 of Mashhad University of Medical Sciences

Expected recruitment start date

2014-06-01, 1393/03/11

Expected recruitment end date

2015-06-01, 1394/03/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison between continuous lung ventilation at low minute volume and non-ventilation during pumping in

oxygenation and extubation in patients undergoing coronary bypass surgery

Public title

Improvement in Pulmonary parameters in patients during and after coronary bypass surgery

Purpose

Treatment

Inclusion/Exclusion criteria

The main inclusion criteria: Male and female candidates for elective coronary artery bypass surgery; Consent to participate in the study; The age range of 40-75 years; Body mass index (BMI) less than 30. The main exclusion criteria: Underlying lung disease; Previous history of diabetes; Pulmonary blood pressure; Grade 2 (or higher) diastolic dysfunction; previous history of surgery or CABG surgery; Ejection fraction (EF) less than 30%; Pumping time more than 2 hours; Long ventricular fibrillation or prolonged heart massage during surgery; Other factors causing prolonged ventilation.

Age

From **45 years** old to **75 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Male and female candidates for undergone elective coronary bypass surgery on- pump, are divided into two groups of 15, based on a random table. Extubation in patients is scheduled by a nurse who is unaware about research.

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, Mashhad

City

Mashhad

Postal code

Approval date

2013-11-20, 1392/08/29

Ethics committee reference number

920273

Health conditions studied

1

Description of health condition studied

Pulmonary heart disease

ICD-10 code

I27.9

ICD-10 code description

Pulmonary heart disease, unspecified

Primary outcomes

1

Description

Oxygen Pressure in arterial blood

Timepoint

Before, During and after anesthesia

Method of measurement

Arterial blood test

2

Description

Fraction of Inspired Oxygen

Timepoint

Before, during and after anesthesia

Method of measurement

Arterial blood test

Secondary outcomes

1

Description

Point atelectasis

Timepoint

In ICU after intervention

Method of measurement

Chest radiograph

Intervention groups

1

Description

Intervention group: patients with continuous ventilation of the lungs with low minute volume, with a tidal volume of 4 ml/ kg and a respiratory rate of 12 per minute during cardiopulmonary bypass pump

Category

Treatment - Other

2

Description

Control group: Patients without ventilation, after connecting to cardiopulmonary bypass pump, oxygen and ventilation are disconnected and oxygenation of the patient's blood occurs through a bypass pump (CPB).

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Ghaem Hospital

Full name of responsible person

Shima Sheybani

Street address

Ghaem hospital, Ahmadabad Avenue, Mashhad

City

Mashhad

2

Recruitment center

Name of recruitment center

Shariati Hospital

Full name of responsible person

Shima Sheybani

Street address

Shariati hospital, Three ways of Torghabe-Shandiz, Zaferanieh Blv, Mashhad

City

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

Street address

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

City

Mashhad

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

Mashhad University of Medical Sciences

Full name of responsible person

Shima Sheybani

Position

Assistant Professor

Other areas of specialty/work

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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