

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Determining and comparing the effect of Adaptive Support Ventilation and Synchronized Intermittent Mandatory Ventilation on respiratory support outcomes after Coronary Artery Bypass Graft surgery, Isfahan University of Medical sciences, Chamran hospital, 2014

Protocol summary

Summary

Aim: Comparing the effect(s) of using adaptive support ventilation and synchronized intermittent mandatory ventilation on respiratory support outcomes (ventilation duration, length of hospital stay, unsuccessful weaning cases, and haemodynamic parameters of mean atrial blood pressure (MAP) and SPO2) after coronary artery bypass graft surgery. Design: Randomized, one period, single blinded, two groups Population: Patients after coronary artery bypass graft surgery which were transferred to cardiac surgery ICU Main inclusion criteria: The range of age was between 25 and 65 years old; Patients did not have a history of lung diseases (Asthma, ...) or lung and heart surgeries; stable haemodynamic; Ejection fraction was more than 30 percent; Patients did not have renal failure (serum creatinine more than 2), liver disease, and history of seizure and CVA. Main exclusion criteria: Occurring unstable haemodynamic status during research; life threatening cardiac arrhythmia; Unusual hemorrhage after operation; Need to anesthesia and operation again. Sample size: 64 patients Intervention: The effect of adaptive support ventilation or synchronized mandatory intermittent ventilation on respiratory support outcomes Time of intervention: After coronary artery bypass graft surgery Outcomes: change of respiratory support outcome

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014101919584N1**
Registration date: **2014-12-30, 1393/10/09**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-12-30, 1393/10/09

Registrant information

Name

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Name of organization / entity

Isfahan University of Medical Sciences, faculty of Nursing and Midwifery

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

vice chancellor for research, Isfahan university of medical sciences, Isfahan

Expected recruitment start date

2014-04-21, 1393/02/01

Expected recruitment end date

2014-06-15, 1393/03/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Determining and comparing the effect of Adaptive Support Ventilation and Synchronized Intermittent Mandatory Ventilation on respiratory support outcomes

after Coronary Artery Bypass Graft surgery, Isfahan
University of Medical sciences, Chamran hospital, 2014

Public title

Using different modes of ventilation after coronary artery
bypass graft surgery

Purpose

Supportive

Inclusion/Exclusion criteria

Main inclusion criteria: Using one of the ventilation
modes (Adaptive support ventilation (ASV) or
synchronized intermittent mandatory ventilation (SIMV))
on Raphael ventilator was allowed by anesthesiologist;
The range of age was between 25 and 65 years; Patients
did not have a history of lung diseases (Asthma, ...) or
lung and heart surgeries; Patients did not have renal
failure (serum creatinine more than 2), liver disease, and
history of seizure and CVA; left ventricular ejection
fraction was more than 30 percent; In the time of ICU
entrance patients were haemodynamically stable (respiratory
rate less than 35 per minute, heart rate less than 150 per
minute, mean atrial pressure less than 70 mmHg) and intra
aortic balloon pump was not used. Main exclusion criteria:
occurring unstable haemodynamic status during research
(respiratory rate more than 35 per minute, heart rate more
than 150 per minute, mean atrial pressure more than 70
mmHg); life threatening arrhythmia during research like
ventricular tachycardia; need to excess dosages of inotropes
and vasoconstrictors during research (Dopamin more than
20 milligram per hour, norepinephrin more than 0.5
milligram per hour, dobutamin more than 25 milligram
per hour, and epinephrin with any doses); Unusual
bleeding after operation (chest tube drainage more than
500 ml per hour, more than 350 ml per hour for 2 hours,
or more than 1000 ml at all) ; Need to anesthesia and
operation again.

Age

From **25 years** old to **65 years** old

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **64**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Moral committee of Isfahan university of medical
sciences

Street address

Isfahan university of medical sciences, Azadi square,
Hezar Jarib street, Isfahan

City

Isfahan

Postal code

8174673461

Approval date

2014-05-08, 1393/02/18

Ethics committee reference number

717/4/5

Health conditions studied

1

Description of health condition studied

Atherosclerotic heart disease

ICD-10 code

I25.1

ICD-10 code description

Atherosclerotic heart disease

Primary outcomes

1

Description

Intubation duration

Timepoint

When the intervention starts

Method of measurement

Hour and minutes

2

Description

Length of hospital stay

Timepoint

When the patient is being discharged

Method of measurement

Hour and minutes

Secondary outcomes

1

Description

nothing

Timepoint

nothing

Method of measurement

nothing

Intervention groups

1

Description

Description: In this study, patients after undergoing Coronary Artery Bypass Graft surgery (CABG) and transferring to the intensive care unit (ICU) while intubated, with approval of an anesthesiologist for possibility of using one of the Adaptive Support Ventilation (ASV) or Synchronized Intermittent Mandatory Ventilation (SIMV) modes, were randomized to the intervention or control group. Intervention group: using Adaptive Support Ventilation mode for respiratory ventilation after coronary artery bypass graft surgery in intensive care unit

Category

Treatment - Other

2

Description

Control group: Using Synchronized Intermittent Mandatory Ventilation mode for respiratory ventilation after coronary artery bypass graft surgery in intensive care unit

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Isfahan heart diseases center

Full name of responsible person

Hadi Zarei - MS student of critical care nursing

Street address

Chamran hospital, Moshtagh 3 street, Isfahan

City

Isfahan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Isfahan university of medical sciences

Full name of responsible person

Dr. Peyman Adibi

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Isfahan university of medical sciences, Hezar jarib street, Azadi square, Isfahan

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Isfahan

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, Isfahan 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

Isfahan university of medical sciences, faculty of nursing and midwifery

Full name of responsible person

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Position

Ms student of critical care nursing (Nurse)

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