Clinical Trial Protocol
Iranian Registry of Clinical Trials

26 Jun 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 ststus 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

Hadi Zarei

Name of organization / entity

Isfahan University of Medical Sciences, faculty of Nursing and Midwifery

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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 durin 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, dobotamin 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 squre, Hezar Jarib street, Isfahan
City
Isfahan
Postal code
8174673461
Approval date
2014-05-08, 1393/02/18
Ethics committee reference number
717/4/د

Health conditions studied

1

Description of health condition studied
Atherosclerotic heart disease
ICD-10 code
IX125.1
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 posibility 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
Hadi Zarei

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