Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Compare the effects of respiratory care planning and non-invasive ventilation (CPAP) on the incidence of atelectasis and arterial blood oxygen levels in patients undergoing coronary artery bypass graft

Protocol summary

Summary

This study aimed to compare the efficacy of respiratory care planning and Non-invasive ventilation with continuous positive airway pressure (CPAP) on the incidence of atelectasis and arterial blood oxygen levels in patients undergoing coronary artery bypass graft at Educational Affairs Rajai Cardiovascular Center. The present study is an empirical research in which the 120 patients undergoing coronary artery bypass graft with permuted-block randomization were given one of three groups (40 people) two intervention groups and a control group. (Inclusion criteria: no history of respiratory disease. not emergency heart surgery. Exclusion criteria: loss of consciousness after surgery, more than 24 hours of mechanical ventilation, hemodynamic instability). Patients in the first experimental group received a series of planned respiratory care, patients in the second experimental group received noninvasive ventilation and patients in control group were given routine hospital care. The other care were similar between the three groups of patients. Three groups were compared in terms of oxygen saturation prior to surgery and on the first, second and third postoperative atelectasis based on chest x-ray and as compared to the third day after surgery.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016050825707N3**
Registration date: **2017-02-06, 1395/11/18**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2017-02-06, 1395/11/18

Registrant information

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Educational Affairs Rajai Cardiovascular Center

Expected recruitment start date

2016-06-04, 1395/03/15

Expected recruitment end date

2016-07-31, 1395/05/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Compare the effects of respiratory care planning and non-invasive ventilation (CPAP) on the incidence of atelectasis and arterial blood oxygen levels in patients undergoing coronary artery bypass graft

Public title

effesct of ventilation interventions on the patient's breathing status

Purpose

Prevention

Inclusion/Exclusion criteria
Inclusion criteria: 1.with no history of respiratory disease 2. Age 30-70 years 3.not emergency heart surgery Exclusion criteria: 1. The patient's unwillingness to continue the study 2-loss of consciousness after surgery 3. more than 24 hours of mechanical ventilation 4. death of a patient 5. hemodynamic abnormalities 6.out of dreans in the time except the third day after surgery
Age
From **50 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)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Rajaee cardiovascular center
Street address
Rajaee cardiovascular center.niayesh intersection.valiasr street
City
Tehran
Postal code
1996911151
Approval date
2016-02-27, 1394/12/08
Ethics committee reference number
RHC.AC.IR.REC.1394.34

Health conditions studied

1

Description of health condition studied
Atelectasis
ICD-10 code
J98.1
ICD-10 code description
Pulmonary collapse

Primary outcomes

1

Description
O2 saturation
Timepoint
3-4 times per day
Method of measurement
by puls oximeter and ABG

Secondary outcomes

1

Description
incidence of atelectasis
Timepoint
The third day post surgery
Method of measurement
CXR

Intervention groups

1

Description
Intervention group 1: 1) use of incentive spirometry for five-minute. 2)Three deep breathing that Contains a deep breath (to three mental count) and exhale bud lips, and then do two effective cough. 3) Oral care with a solution of mouthwash or brush. 4))Undrestanding to repeat care. 5)movement, including changing position and moving the legs in the form of bicycles run, and by allowing the surgeon out of bed (for sitting on the edge of the bed, walking or Move with wheelchair). 6)The head of the bed elevated controlle at a rate of 45-30 degrees.
Category
Prevention

2

Description
Intervention group 2:applied Non-invasive ventilation by mask and with pressure 8-12 cm H2O for 20 minutes according to patient tolerance.
Category
Prevention

3

Description
Control group:Routine hospital care
Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Rajaee cardiovascular center

Full name of responsible person
Sedighe Ghorbani

Street address
Niayesh intersection.valiasr street

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Rajaee cardiovascular center

Full name of responsible person
Sedighe Ghorbani

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Shaheed Rajaei Cardiovascular Medical and Research Center Valiasr Ave Niayesh Intersection Tehran

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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
Rajaee cardiovascular center

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

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Full name of responsible person
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Position
BS/Nurse

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

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University of Social Welfare and Rehabilitation Sciences

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Position
PhD candidate

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Person responsible for updating data

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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