

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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

Name

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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

Rajae cardiovascular center

Street address

Rajae 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

Rajae 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

Rajae 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

Rajae 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

Name of organization / entity

Rajae cardiovascular center

Full name of responsible person

Sedighe Ghorbani

Position

BS/Nurse

Other areas of specialty/work

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Person responsible for scientific inquiries

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Sciences

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PhD candidate

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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