Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Study of the effect of pre and post operation breathing exercise on the incidence of atelectasis and pneumonia in patients with coronary artery bypass graft surgery who referred to Seyed-al-shohada hospital, Urmia

Protocol summary

Summary

The aim of the study was evaluation of the effect of Pre and Post operation Breathing Exercise on the Incidence of atelectasis and pneumonia in patients with coronary artery bypass graft surgery referred to Seyed-Al-Shohada hospital situated in Urmia, Iran. The study started after approval of Local Ethics Committee comprised 40 patients candidate for CABG with the ages between 40-70 years old were at Seyed-Al-Shohada hospital, Urmia, Iran. Patients were randomly assigned to the control and experiment group. Patients with previous pulmonary surgery and cognitive disorders, congestive heart disease, and previous chronic pulmonary disease and intubation more than 24 hours were not included in the study. Patients studied in experiment group received breathing exercises including deep breathing, incentive spirometry and directed cough maneuvers. This breathing exercise was initiated 48 hours pre operation and then that were repeated at 24 and 72 hours after extubation after surgery. Patients in control group received the hospital routine treatment. For assessment of ABG outcomes, CBC, atelectasis and pneumonia in chest x ray and pulmonary function testes were compared in all patients. Arterial Blood Gasses and blood sampling and chest X ray between two groups were compared pre operation and first and third day post operation.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201209229422N3**
Registration date: **2012-09-28, 1391/07/07**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2012-09-28, 1391/07/07

Registrant information

Name
Aram Feizi
Name of organization / entity
Urmia University of Medical Sciences
Country
Iran (Islamic Republic of)
Phone
+98 44 1336 5836
Email address
aramfeizi@umsu.ac.ir

Recruitment status

Recruitment complete

Funding source

Urmia University of Medical Sciences

Expected recruitment start date

2012-06-21, 1391/04/01

Expected recruitment end date

2012-09-10, 1391/06/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Study of the effect of pre and post operation breathing exercise on the incidence of atelectasis and pneumonia in patients with coronary artery bypass graft surgery who referred to Seyed-al-shohada hospital, Urmia

Public title

The effect of pre and post operation breathing exercise

on the incidence of atelectasis and pneumonia in patients with coronary artery bypass graft surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Patients between 40-70 years old, ejection fraction negative history muscular or cognitive disorders; no emergency surgery; negative history of previous heart surgery, lack of preoperative pulmonary disease (pneumonia, chronic obstructive pulmonary disease, atelectasis, pleural effusion). Exclusion criteria: need for mechanical ventilation more than 24 hour, need for reoperation due to surgery complications; Patient refusal of further participation in the study at any stage of the work; congestive heart disease, severe hemodynamic impairment.

Age

From **40 years** old to **70 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

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

Urmia University of Medical Sciences

Street address

Urmia University of Medical Sciences, Resalat Boulevard

City

urmia

Postal code

Approval date

2012-05-29, 1391/03/09

Ethics committee reference number

6/91/4/39220پ

Health conditions studied

1

Description of health condition studied

Coronary artery disease

ICD-10 code

I25.1

ICD-10 code description

Atherosclerotic heart disease

Primary outcomes

1

Description

atelectasis

Timepoint

24 and 72 hours after extubation after surgery

Method of measurement

chest x ray ,pulmonary function testes،arterial blood gasses

2

Description

pneumonia

Timepoint

24 and 72 hours after extubation after surgery.

Method of measurement

chest X ray, blood sampling

3

Description

pulmonary function

Timepoint

48 hours pre operation،72 hours after extubation after surgery

Method of measurement

pulmonary function testes, Arterial Blood Gasses

Secondary outcomes

1

Description

Saturation of Peripheral Oxygen

Timepoint

preoperation and 72 hours after extubation after surgery

Method of measurement

monitor and pulse oximetry

2

Description

arterial blood gasses

Timepoint

preoperation,24 and 72 hours after extubation

Method of measurement

assessment arterial blood gas

3

Description
tempereture
Timepoint
preoperation,24 and 72 hours after extubation
Method of measurement
by termometer

4

Description
respiratory rate
Timepoint
preoperation,24 and 72 hours after extubation
Method of measurement
number of respiratory rate

5

Description
heart rate
Timepoint
preoperation,24 and 72 hours after extubation
Method of measurement
cardiac monitoring

Intervention groups

1

Description
Experiment group received breathing exercises including deep breath, incentive spirometry and directed cough maneuvers.These breathing exercises was initiated one hour after extubation and were repeated in the first and three days after extubation after surgery.
Category
Prevention

2

Description
Control group received the hospital routine treatment.
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Seyyed-o-alshohada Hospital
Full name of responsible person
Dr. Shahyad Salehi Ardebili
Street address
Seyyed-o-alshohada Hospital, 17 Shahrivar Street, Urmia
City
urmia

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Urmia University of Medical Sciences
Full name of responsible person
Dr. Morteza Motazaker
Street address
Urmia University of Medical Sciences
City
urmia
Grant name
ردیف پژوهشی معاونت تحقیقات و فن آوری
Grant code / Reference number
1094
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Urmia 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
Urmia University of Medical Sciences
Full name of responsible person
Dr. Aram Feizi
Position
PhD of Nursing
Other areas of specialty/work
Street address
Nursing and Midwifery Faculty, Urmia University of Medical Sciences
City
urmia
Postal code
Phone
+98 44 1275 2917
Fax
Email
aramfeizi@yahoo.com
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity

Urmia University of Medical Sciences

Full name of responsible person

Dr. Aram Feizi

Position

PhD of Nursing

Other areas of specialty/work

Street address

Medical Education Development Center, Urmia University of Medical Sciences

City

urmia

Postal code

Phone

+98 44 1293 7300

Fax

Email

aramfeizi@yahoo.com

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Nursing and Midwifery Faculty

Full name of responsible person

Aisona Rahmani

Position

MSc Student of Nursing

Other areas of specialty/work

Street address

Nursing and Midwifery Faculty, Urmia University of Medical Sciences

City

urmia

Postal code

Phone

Fax

Email

Web page address

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