Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

A comparison of reduce pulmonary complications in two groups, with The exercises 2 weeks before and after coronary artery bypass surgery and no exercise therapy In patients with chronic obstructive pulmonary disease.

Protocol summary

Summary

The purpose of this study is to determine the effect of 4 weeks of exercise therapy in patients with chronic obstructive pulmonary disease(COPD) on pulmonary complications after coronary artery bypass grafting surgery(CABG). Fourty patients aged 40-80 years who were preoperatively diagnosed with chronic obstructive pulmonary disease undergoing cardiac surgery with left ventricular ejection fraction greater than30% will be studied. Patients are divided into 2 groups voluntarily: the first group of 20 people will be from2 weeks prior to surgery, breathing exercise, the use of respiratory assistance, hands at shoulder width and the use of respiratory muscles and walking intervals before the specified practice and provided papers with weekly control in the hospital and measure respiratory parameters using spirometry and peak flowmetry, monitoring to assess the hemodynamic such as heart rate, blood pressure and oxygen saturation of arterial blood before and after exercise.This process will be repeat after two week. In the second group, 20patients, 2 weeks before surgery training program will not be controlled and the length of stay in the intensive care unit and then transferred to the home will perform just a routin activities without control in 2 weeks before and after surgery and measurement for the second group will be done based on timing of the first group. finally we will study the complication decrease in COPD patients.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014061018038N1**
Registration date: **2014-08-29, 1393/06/07**
Registration timing: **registered_while_recruiting**
Last update:
Update count: **0**

Registration date

2014-08-29, 1393/06/07

Registrant information

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Recruitment status

Recruitment complete

Funding source

Guilan University of Medical Sciences

Expected recruitment start date

2014-08-22, 1393/05/31

Expected recruitment end date

2014-12-21, 1393/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparison of reduce pulmonary complications in two groups, with The exercises 2 weeks before and after coronary artery bypass surgery and no exercise therapy In patients with chronic obstructive pulmonary disease.

Public title
Reduce pulmonary complications in patients COPD after coronary artery bypass grafting(CABG)
Purpose
Prevention
Inclusion/Exclusion criteria
Inclution criteria: patients aged 40 to 80 years, ejection fraction was more than 30%. exclution criteria: arrythmias,hypoxia, hypotension,patients schizophrenia and psychotic with long-acting sedative, Severe osteoporosis.
Age
From **40 years** old to **80 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **40**
Randomization (investigator's opinion)
Not 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
Guilan University of Medical Sciences
Street address
shahid beheshti freeway، rasht، Guilan
City
Rasht
Postal code
Approval date
2014-02-22, 1392/12/03
Ethics committee reference number
6920422817

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Ethics committee
Name of ethics committee
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Street address
Shahid beheshti freeway
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Postal code
Approval date
2014-02-23, 1392/12/04
Ethics committee reference number
6920422817

Health conditions studied

1

Description of health condition studied
Chronic Obstructive Pulmonary Disease
ICD-10 code
J 44.9
ICD-10 code description
•obstructive pulmonary disease

Primary outcomes

1

Description
Measurment Peak expiretory flow
Timepoint
before transfer with ICU2 and transfer to surgery unit and hospital discharge
Method of measurement
Peak low Meter that measurment according to the American Lung Association، peak expirotory flow that readings are often classified into 3 zones: green, yellow, and red.

2

Description
VC, FVC, FEV1, FEV1/FVC, PEF
Timepoint
two week before and after surgery
Method of measurement
Spirometry the scale ECCS

3

Description
Arterial Blood Gas
Timepoint
Admission to the ICU, second day, third day and before discharge from hospital
Method of measurement
Techno Medical

4

Description
O2Saturation
Timepoint
2 week before and after surgery, at the time of admission and discharge , before the arrival and departure of the ICU2, preoperative
Method of measurement
Pulseoximeter Radical-V

Secondary outcomes

1

Description
Blood Pressure
Timepoint
2 week before and after surgery, admission and discharg to hospital, before entering and leaving of ICU2
Method of measurement
Manitoring available in hospital by manometer

2

Description
Heart Rate
Timepoint
2 week before and after surgery, admission and discharg to hospital, before entering and leaving of ICU2
Method of measurement
manitor available in hospital

3

Description
Atelectasis, Pneumonia, pulmonary edema,Pneumothorax
Timepoint
before and after surgery, Second and third day after surgery.
Method of measurement
Chest x-ray and Assessment of hemodynamic

Intervention groups

1

Description
Intervention 1 : Program breathing exercises , including breathing and lip- buds are sitting in a chair or walking 3 times a day , exercise the diaphragm in 3 times daily, 1 min , 2 min rest and gradually increase during exercise up to 5 minutes, Cough circuit technique two times a day with hands on abdomen that slightly bent forward and Coughing with mouth open. cough 2 or 3 short and sharp and stay and then the rest
Category
Prevention

2

Description
Intervention 2 : Exercise hands at shoulder width in three ways that are comfortable to sit on a chair , lift shoulders After 3 times, rest and other exercise، lift elbows to shoulder level and touch fingertips in front of chest. breathe in as pull elbows back so that fingertips separate and so beathe out as return elbows and fingertips to the original position and other exercise, hands on shoulders with elbows at shoulder level and pointing out, slowly make a circle with elbows, breathe out as start the circle and breathe in as complete the circle. each of the five episodes of shoulder exercises and then relax and each of exercise 10 minute in 3 turn daily will be.
Category
Prevention

3

Description
Intervention 3:6minute walk three times a day
Category
Prevention

4

Description
Control group : routine exercise without regulation before and after surgery. Including the use of spirometry and chest physiotherapy and coughing techniques by physiotherapist residing in the morning.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Heshmat hospital
Full name of responsible person
Zahra Mahmoodi(Bachelor of Nursing and MSc student in Exercise Physiology
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Dr heshmat hospital-15 khordad street- Rasht
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Guilan Research Center of Medical Sciences and Health Services
Full name of responsible person
Zahra Mahmoodi
Street address
Heshmat Hospital
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Rasht
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Guilan Research Center of Medical Sciences and Health Services
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

Guilan University of Medical Sciences

Full name of responsible person

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Position

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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