

Clinical Trial Protocol

Iranian Registry of Clinical Trials

29 Jun 2026

The effect of endotracheal suctioning with and without normal saline on respiratory physiologic parameters in open heart surgery patients

Protocol summary

Summary

The aim of this single group clinical trial is to investigate the effect of using normal saline in endotracheal suctioning at the ventilation status. A total of 40 patients, hospitalized in cardiac ICU after coronary artery bypass graft in Imam Ali hospital, are recruited. After transmission to ICU, firstly endotracheal suctioning without normal saline and two hours later endotracheal suctioning with instillation of 5cc normal saline in endotracheal tube is done. Before each suctioning procedure, firstly arterial blood gases analysis, end tidal CO₂ by capnograph and saturation O₂ by pulse oximeter, peak inspiratory pressure, plateau pressure, and other parameters by monitoring ventilator are recorded. Then, dynamic compliance, static compliance and airway resistance are calculated and the patient is hyperoxygenized for 2 minutes and then the patient is disconnected from the ventilator and endotracheal suctioning is done by 12Fr catheter with pressure of 120-150mmHg for 10-15 seconds. The patient is connected to the ventilator immediately after suctioning and arterial blood gases analysis and other desired respiratory parameters are measured again five and 15 minutes after connecting.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201008084531N1**
Registration date: **2010-10-23, 1389/08/01**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2010-10-23, 1389/08/01

Registrant information

Name

Ali Akbar Visi Raygani

Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Kermanshah University of Medical sciences

Expected recruitment start date

2010-07-16, 1389/04/25

Expected recruitment end date

2010-10-23, 1389/08/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of endotracheal suctioning with and without normal saline on respiratory physiologic parameters in open heart surgery patients

Public title

The effect of normal saline in endotracheal suctioning on ventilation

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: elective coronary artery bypass graft, age less than 65, normal pre-operative pulmonary function tests, no chronic obstructive pulmonary disease,

normal arterial blood gases in room air and before induction , Ejection fraction more than 40%, stable hemodynamic status after transmission to ICU, normal arterial blood gases after transmission to ICU, under ventilation by bennet 760 Exclusion criteria: abnormal arterial blood gases, hemodynamic disturbance, smoking

Age

From **1 year** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Kermanshah University of Medical Scinces

Street address

No2 building, Kermanshah University of Medical Sciences, Next of Sepah square, Shahid Beheshti Boulevard

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Postal code

73159-67146

Approval date

2010-07-13, 1389/04/22

Ethics committee reference number

802/420/7پ

Health conditions studied

1

Description of health condition studied

Respiratory dysfunction

ICD-10 code

T81.8

ICD-10 code description

Other complications of procedures, not elsewhere classified

Primary outcomes

1

Description

arterial blood gases

Timepoint

one minute before and one, 5 and 15 minutes after the procedure

Method of measurement

arterial blood gases analysis

2

Description

end tidal CO2

Timepoint

one minute before and one, 5 and 15 minutes after the procedure

Method of measurement

by capnograph

3

Description

O2 saturation

Timepoint

one minute before and one, 5 and 15 minutes after the procedure

Method of measurement

by pulseoxymeter

4

Description

peak inspiratory pressure, plateau pressure, dynamic compliance, static compliance and airway resistance

Timepoint

one minute before and one, 5 and 15 minutes after the procedure

Method of measurement

by monitoring of ventilator

Secondary outcomes

empty

Intervention groups

1

Description

endotracheal suctioning with normal saline

Category

Other

2

Description

endotracheal suctioning without normal saline

Category

Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Emam Ali Hospital

Full name of responsible person

Ali Akber Visi Raygani

Street address

Emam Ali Hospital, Next of Sepah square, Shahid Beheshti Boulevard

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Kermanshah University of Medical Sciences

Full name of responsible person

Dr.Farid Najafi

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Kermanshah

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Kermanshah 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**

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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