Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 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 suctiocing procedure, firstly arterial blood gases analysis, end tidal CO2 by capnograph and saturation O2 by palsoxymeter, 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 catether 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
Kermanshah University of Medical sciences

Country
Iran (Islamic Republic of)

Phone
+98 83 1827 9394

Email address
avisi@kums.ac.ir

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

City
Kermanshah

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 pulsoxymeter

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
City
Kermanshah

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Kermanshah University of Medical Sciences
Full name of responsible person
Dr.Farid Najafi
Street address
No2 building, Kermanshah University of Medical Sciences, Next of Sepah square, Shahid Beheshti Boulevard
City
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
Kermanshah University of Medical Sciences
Full name of responsible person
Ali Akbar Visi Raygani
Position
Member of Scientific Department/Master of Science Nursing
Other areas of specialty/work
Street address
No2 building, Kermanshah University of Medical Sciences, Next of Sepah square, Shahid Beheshti Boulevard
City
Kermanshah
Postal code
67146-73159
Phone
+98 83 1828 2102
Fax
+98 83 1827 9394
Email
avisi@kums.ac.ir
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Kermanshah University of Medical Sciences
Full name of responsible person
Ali Akbar Visi Raygani
Position
Master of Science Nursing
Other areas of specialty/work
Street address
School of Nursing and Midwifery, Next of Ashayer Square, Dolat abad
City
Kermanshah
Postal code
6714673159
Phone
+98 83 1827 9394
Fax
+98 83 1827 9394
Email
visi-akber@yahoo.com
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Kermanshah University of Medical Sciences
Full name of responsible person
Ali Akbar Visi Raygani
Position
Member of Scientific Department/Master of Science Nursing
Other areas of specialty/work
Street address
Kermanshah University of Medical Sciences
City
Kermanshah
Postal code
67146-73159
Phone
+98 83 1828 2102

Fax
+98 83 1827 9394
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avisi@kums.ac.ir
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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