

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 Jul 2026

Effect of a closed-endotracheal suction system on the ABGs of patients undergoing open heart surgery and admitted in the intensive care unit of Imam Ali hospital

Protocol summary

Summary

Objective: to determine the impact of closed endotracheal suction system on the values of arterial blood gases of patients undergoing open heart surgery in Imam Ali hospital, kermanshah. Study design: randomized. Study population: Patients undergoing open heart surgery and admitted to the intensive care unit at Imam Ali hospital. Major inclusion criteria: having an endotracheal tube, being under mechanical ventilation, having acceptable clinical and Para clinical criteria such as sufficient tissue perfusion and urinary output. Major exclusion criteria: having paranchymal lung diseases, congestive heart failure, chronic smoker, congenital cyanotic diseases, right to left shunt, and renal failure. Sample Size: 42 patients. Intervention: using closed and open endotracheal suction systems. Time of intervention: firstly, closed or open endotracheal suction randomly will be performed for each patient and for the second time vice versa. In order to remove the effects of previous suction on the results of the next one, the interval between the two suctions, is to at least 60 minutes. Before the tracheal suction an arterial blood sample will be taken for having the base value. Arterial blood samples will be taken 1, 5 , and 15 minutes after each suction in the both methods. Primary outcomes: abg results

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201009134736N1**

Registration date: **2010-12-18, 1389/09/27**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2010-12-18, 1389/09/27

Registrant information

Name

Alireza Khatony

Name of organization / entity

Kermanshah University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research & technology, Kermanshah university of medical sciences

Expected recruitment start date

2010-11-06, 1389/08/15

Expected recruitment end date

2010-12-21, 1389/09/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of a closed-endotracheal suction system on the ABGs of patients undergoing open heart surgery and admitted in the intensive care unit of Imam Ali hospital

Public title

Effect of closed syction on arterial blood gases

Purpose

Supportive

Inclusion/Exclusion criteria
 Inclusion Criteria: 1. Having tracheal tube and being under mechanical ventilation 2. Having acceptable clinical and paraclinical criteria such as adequate tissue perfusion and urinary output 3. Having coronary artery bypass graft surgery 4. Chest tube drainages lower than 100 ml/hr 5. Temperature between 35 to 38.5 ° C 6. Having normal Hg, Hct, and electrolytes (Na and K) 7. Having arterial blood gases (PaO2, PaCO2) in the acceptable ranges Exclusion Criteria: 1. Patients with paranchymal lung diseases such as COPD, emphysema, and asthma 2. Patients with chest disorders such as kyphosis 3. Patients who are chronic smokers 4 .patients with lung contusion 5. Patients who have treated with Bronchodilators and Mocolytic drugs suck as Salbutamol and N-Acetylcystein before admission to hospital 6. patients with congenital cyanotic diseases and right to left shunt 7. Patients with congestive heart failure 8. Patients who suffered cardiac arrest due to hypoxia 9. Patients with heart valves diseases 10. Patients with Intra aortic balloon pump 11. Patients who need frequent suctioning 12. Patients who are suffering from renal failure

Age
 From **30 years** old to **70 years** old

Gender
 Both

Phase
 N/A

Groups that have been masked
No information

Sample size
 Target sample size: **42**

Randomization (investigator's opinion)
 Randomized

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

Ethic committee of kermanshah university of medical sciences

Street address

Shahid beheshty Blv.

City

Kermanshah

Postal code

Approval date

2010-06-28, 1389/04/07

Ethics committee reference number

204/420/7/پ

Health conditions studied

1

Description of health condition studied

Arterial Blood Gases

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Arterial blood gases

Timepoint

Pre-suction and 1, 5 and 15 minutes after suction

Method of measurement

Laboratory methods

Secondary outcomes

empty

Intervention groups

1

Description

In the intervention group a open suctioning system will be performed with the disconnection of the patient from the ventilator and the introduction of the suction catheter into the endotracheal tube.

Category

Prevention

2

Description

In the control group a closed suctioning system included in the ventilatory circuit, allowing to introduce the suction catheter into the airways without disconnecting the patient from the ventilator.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Ali hospital

Full name of responsible person

Dr Gholamreza Morady

Street address

Sepah pasdaran sq. shahid beheshty bld.

City

Kermanshah

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Kermanshah university of medical sciences

Full name of responsible person

Dr Farid Najafy

Street address

Kermanshah university of medical sciences, sepah pasdaran sq. shahid beheshty bld.

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 school of nursing and midwifery

Full name of responsible person

Alireza Khatony

Position

PhD. dean of faculty

Other areas of specialty/work

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Person responsible for updating data

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Full name of responsible person

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PhD-faculty member, dean of faculty

Other areas of specialty/work

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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