

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jul 2026

Comparison the effect of open and closed endotracheal suctioning systems on cardiopulmonary parameters of ventilated patients in general ICU at Hamadan's Besat Hospital 1390.

Protocol summary

Summary

Objective: to determine the impact of open and closed endotracheal suction system on the cardiopulmonary parameters of ventilated patients in general ICU at Hamadan's Besat Hospital 1390. Study design: randomized. Study population: patients admitted to the intensive care unit at Hamadan's Besat Hospital. Major inclusion criteria: having an endotracheal tube, being under mechanical ventilation, age between 18 to 65 years, having acceptable hemodynamic parameters. Major exclusion criteria: Become unstable hemodynamic parameters of patients during the study, require suctioning at the time of wash out, need to perform medical intervention during the study, fighting with ventilator. Sample Size: 42 patients. Intervention: using closed and open endotracheal suction systems on any of the samples. 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 suction, is to at least 30 minutes. Design variables will be taken before suctioning, 1, 5, 10 and 15 minutes after endotracheal suctioning with both open and closed suction system. Primary outcomes: changes in cardiopulmonary parameters.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201106066714N1**

Registration date: **2011-06-21, 1390/03/31**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2011-06-21, 1390/03/31

Registrant information

Name

Ali Afshari

Name of organization / entity

Hamadan university of medical sciences

Country

Iran (Islamic Republic of)

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Email address

afshari@umsha.ac.ir

Recruitment status

Recruitment complete

Funding source

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

Expected recruitment start date

2011-07-23, 1390/05/01

Expected recruitment end date

2011-09-06, 1390/06/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison the effect of open and closed endotracheal suctioning systems on cardiopulmonary parameters of ventilated patients in general ICU at Hamadan's Besat Hospital 1390.

Public title

Effect of closed suction on cardiopulmonary parameters

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion Criteria: Having tracheal tube and being under mechanical ventilation; Not with chronic obstructive pulmonary diseases; Do not use of dopamine, dobutamin and nitroglycerin; Being stable hemodynamic parameters; age between 18 to 65 years; Being in supine position; The patient was paralyze and ventilated with CMV mode. Exclusion Criteria: require suctioning at the time of wash out; Become unstable hemodynamic parameters of patients during the study; Need for necessary diagnostic or therapeutic intervention on a patient while doing research; fighting with ventilator (due to Disappear Paralyze or Being conscious).

Age

From **18 years** old to **65 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **38**

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

Ethics committee of Hamadan university of medical sciences

Street address

Hamadan university of medical sciences, Shahid Fahmideh st, Hamadan

City

Hamadan

Postal code

Approval date

2011-05-30, 1390/03/09

Ethics committee reference number

16/35/9/790/د/پ

Health conditions studied

1

Description of health condition studied

comatose patient

ICD-10 code

R40.2

ICD-10 code description

Coma, unspecified

Primary outcomes

1

Description

Blood pressure

Timepoint

Pre-suction and 1, 5, 10 and 15 minutes after suction

Method of measurement

Cuff pressure gauge attached to the patient bedside monitor

2

Description

heart rate

Timepoint

Pre-suction and 1, 5, 10 and 15 minutes after suction

Method of measurement

patient's Bedside monitor

3

Description

heart rates pattern

Timepoint

Pre-suction and 1, 5, 10 and 15 minutes after suction

Method of measurement

patient's Bedside monitor

4

Description

SPO2

Timepoint

Pre-suction and 1, 5, 10 and 15 minutes after suction

Method of measurement

patient's Bedside monitor

Secondary outcomes

empty

Intervention groups

1

Description

In this study, the suction is done on the samples. In this way, the patient separated from the ventilator and suction catheter placed inside the tracheal tube and

suction is done.

Category

Prevention

2

Description

Again the open suctioning in the same patient was performed after at least 30 minutes closed suctioning is done. In this manner the catheter placed in the ventilatory circuit and the possibility of suctioning performed without removing the patient from the ventilator.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Hamadan's Besat Hospital

Full name of responsible person

Ali Afshari, MSc Student in Critical care nursing

Street address

Besat Hospital, Motahari blv, Hamadan

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Hamadan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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

Full name of responsible person

Ali Ghaleiha

Street address

Hamadan university of medical sciences, Shahid Fahmideh st, Hamadan

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Hamadan

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Vice chancellor for research & technology, Hamadan 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

Hamadan university of medical sciences

Full name of responsible person

Ali Afshari

Position

MSc Student in Critical care nursing

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