Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Sep 2026

The effect of expiratory rib cage compression before endotracheal suctioning on hemodynamic changes in mechanically ventilated patients in ICU

Protocol summary

Summary

This research is clinical trial study to determine the effect of rib cage compression on hemodynamic changes in patients under mechanical ventilation in intensive care units.The samples included of 58 mechanically ventilated patients .The patients will be selected gradually according to inclusion criteria .Inclusion criteria includes:age 18 to 65 years, having endotracheal tube for 24 hour, stable hemodynamic status (mean arterial pressure between 110 to 60 mm Hg, heart rate of less than 110 beats per minute), lack of a chest tube, no chest surgery or injuries, no rib fractures,, no skin grafts and reconstructive surgery of the chest,no pregnancy, obesity (body mass index (BMI)> 30).The procedure is that patients randomly are divided into two groups.In intervention group,patients receive expiratory rib cage compression before suctioning three times a day and control group receive routine suction without rib cage compression. Then 5 min before and 15,25 min after intervention, blood pressure, heart rate and O2saturaion measured.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016021326537N1**
Registration date: **2016-05-12, 1395/02/23**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2016-05-12, 1395/02/23

Registrant information

Name

Maryam Yaghoubi

Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Ahvaz University of Medical Sciences

Expected recruitment start date

2016-05-21, 1395/03/01

Expected recruitment end date

2016-06-21, 1395/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of expiratory rib cage compression before endotracheal suctioning on hemodynamic changes in mechanically ventilated patients in ICU

Public title

The effect of expiratory rib cage compression before endotracheal suctioning on hemodynamic changes

Purpose

Other

Inclusion/Exclusion criteria

Iclusionl criteria: age 18 to 65 years, having endotracheal tube for 24 hour, stable hemodynamic status (mean arterial pressure between 110 to 60 mm

Hg, heart rate of less than 110 beats per minute), lack of a chest tube, no chest surgery or injuries, no rib fractures, no skin grafts and reconstructive surgery of the chest,no pregnancy, obesity (body mass index (BMI)> 30) Exclusion criteria: mucolytic and muscle paralysis drugs, start, stop, or change the bronchodilator medications during the study, extubation during the study period, using paralyze anesthesia

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

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **58**

Randomization (investigator's opinion)
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
Ahvaz University of Medical Sciences

Street address
Zip cod:61357-15794, second floor, Golestan highway, Ahvaz University of Medical Sciences, Ahvaz, , Iran

City
Ahvaz

Postal code
6135715794

Approval date
2016-01-27, 1394/11/07

Ethics committee reference number
IR.AJUMS.REC.1394.589

Health conditions studied

1

Description of health condition studied
Mechanically ventilated patients

ICD-10 code
J00-J99

ICD-10 code description
Diseases of the respiratory system

Primary outcomes

1

Description
Blood pressure

Timepoint
Bp will be measured three times: five minutes prior to the endotracheal suctioning, and 15 and 25 minutes following the procedure

Method of measurement
using of the Sphygmomanometer

2

Description
O2 Saturation

Timepoint
SpO2 will be measured three times: five minutes prior to the endotracheal suctioning, and 15 and 25 minutes following the procedure

Method of measurement
with pulse Oximetry (Monitor observation)

3

Description
Heart Rate

Timepoint
HR will be measured three times: five minutes prior to the endotracheal suctioning, and 15 and 25 minutes following the procedure

Method of measurement
Via monitor observation

Secondary outcomes

1

Description
Respiratory Rate

Timepoint
Respiratory rate will be measured three times:five minutes prior to the endotracheal suctioning, and 15 and 25 minutes following the procedure

Method of measurement
Counting the respiratory rate of the patient

Intervention groups

1

Description
In intervention group use expiratory ribcage compression befor suctioning .Then standard suction is done during three times a day

Category
Prevention

2

Description
In control group suctioning without rib cage compression is done
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Glostan hospital in Ahvaz city
Full name of responsible person
Maryam Yaghoubi
Street address
Zip code:6931366853, Mostafa hospital, Keshvary square, Ilam city
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2

Recruitment center
Name of recruitment center
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Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice chancellor for Research of Ahvaz University of Medical Sciences
Full name of responsible person
Dr. Nasrin Elahi
Street address
Zip cod:61357-15794, second floor, Golestan highway, Ahvaz University of Medical Sciences, Ahvaz, Iran
City
Ahvaz
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 of Ahvaz 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