

Clinical Trial Protocol

Iranian Registry of Clinical Trials

05 Jul 2026

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

Protocol summary

Study aim

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

Design

This study is a clinical trial that is performed randomly using available samples and has not been blinded. The sample size is 60 patients using a specific formula. Variables are measured on patients before and after the intervention.

Settings and conduct

This study is performed in Rasoul Akram Hospital in Tehran. The following steps are performed for each patient three times in the morning, evening and night: First, the patient's airway is suctioned so that the airway pressure does not change due to secretions. Then, before activating the ATC mode, once every 6 seconds for 1 minute, the patient's initial internal PEEP value is recorded and its average is listed in the checklist. Then the ATC mode is activated and after one minute from the start of the ATC mode for one minute, the internal PEEP is recorded every 6 seconds and its average is taken and 6 minutes later, the process is repeated until the average internal PEEP is recorded 6 times after ATC is activated and variables are recorded.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Written consent of an effective member of the patient's family, The patient should be Intubated and connected to a ventilator, Do not change the ventilator settings during the intervention. Exclusion criteria: King Endotracheal Tube during study, Perform suction during the intervention, Leakage from the Endotracheal Tube cuff.

Intervention groups

In this study, the effect of ATC on the rate of internal PEEP of COPD in the ICU will be investigated. Samples of the study are both control group and intervention group, so that before the ATC fashion, patients are in the control group and after the ATC fashion, they are in the

intervention group.

Main outcome variables

Internal PEEP value, age, sex

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20170903036041N2**

Registration date: **2020-05-15, 1399/02/26**

Registration timing: **prospective**

Last update: **2020-05-15, 1399/02/26**

Update count: **0**

Registration date

2020-05-15, 1399/02/26

Registrant information

Name

Omid Moradi Moghadam

Name of organization / entity

Iran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-05-20, 1399/02/31

Expected recruitment end date

2020-10-20, 1399/07/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

Public title

The effect of Automatic Tube Compensation on internal PEEP in Chronic Obstructive Pulmonary Disease in Intensive Care Unit.

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Written consent of an effective member of the patient's family The patient should be intubated and connected to a ventilator. Do not change the ventilator settings during the intervention.

Exclusion criteria:

King Endotracheal Tube during study Leakage from the Endotracheal Tube cuff Perform Suction during the intervention

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 60

Randomization (investigator's opinion)

Not 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**

Ethics committee of Iran University of Medical Sciences

Street address

Iran University of Medical Sciences., Hemmat

Highway., Next to Milad Tower., Tehran Town

City

Tehran

Province

Tehran

Postal code

1433933111

Approval date

2020-04-27, 1399/02/08

Ethics committee reference number

IR.IUMS.FMD.REC.1399.096

Health conditions studied**1****Description of health condition studied**

COPD

ICD-10 code

J44

ICD-10 code description

Other chronic obstructive pulmonary disease

Primary outcomes**1****Description**

Internal PEEP

Timepoint

Before and after ATC mode

Method of measurement

View from the monitor screen of the ventilator

Secondary outcomes**1****Description**

Age

Timepoint

Before doing the study

Method of measurement

Patient file

2**Description**

Sex

Timepoint

Before doing the study

Method of measurement

Patient file

Intervention groups**1****Description**

Intervention group: This study is a clinical trial that is performed randomly using available samples and the

effect of ATC on the internal PEEP rate of COPD patients in the ICU will be investigated. In the first group, before activating the ATC mode, the patient's airway is suctioned so that the airway pressure does not change due to secretions, then once every 6 seconds for 1 minute the initial internal PEEP value is recorded and its average is listed in the checklist. To do this study, we use the Hamilton c2 ventilator.

Category

Treatment - Devices

2**Description**

Intervention group: This study is a clinical trial that is performed randomly using available samples and the effect of ATC on the internal PEEP rate of COPD patients in the ICU will be investigated. In the second group, the ATC mode is activated, and one minute after the start of the ATC mode, the internal PEEP is recorded every 6 seconds for one minute and its average is taken. This process is repeated 6 minutes later until the average internal PEEP is recorded 6 times after ATC activation. To do this study, we use the Hamilton c2 ventilator.

Category

Treatment - Devices

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

Rasoul Akram Hospital

Full name of responsible person

Omid Moradi Moghadam

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Iran University of Medical Sciences., Hemmat Highway., Next to Milad Tower., Tehran Town

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

Iran University of Medical Sciences

Full name of responsible person

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

Yes

Title of funding source

Iran University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

Academic

Person responsible for general inquiries**Contact****Name of organization / entity**

Iran University of Medical Sciences

Full name of responsible person

Omid Moradi Moghadam

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Anesthesiology

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

Iran University of Medical Sciences

Full name of responsible person

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Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Person responsible for updating data**Contact****Name of organization / entity**

Iran University of Medical Sciences

Full name of responsible person

Shahab Mohammadi

Position

Doctor

Latest degree

Specialist

Other areas of specialty/work

Anesthesiology

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