Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Evaluation of endotracheal epinephrine effect on Increasing Oxygen Saturation level in COVID-19 patients with severe pulmonary involvement

Protocol summary

Study aim
Improved oxygenation of patients with severe COVID-19
Design
The study was designed as a single-blind clinical trial. The study population will be patients undergoing ventilation in the ICU with positive PCR for coronavirus. The sample size was calculated in each group of 15 people. Assigning samples to two groups will also be simple random.
Settings and conduct
Patients are divided into two groups based on simple random distribution. The first group is given 3 ml of adrenaline (one in 1000) plus 2 ml of normal saline. The second group is given 5 ml of normal saline. Patients under ventilation in the ICU of Ayatollah Mousavi Hospital in Zanjan, Iran will enroll in this study
Participants/Inclusion and exclusion criteria
Inclusion criteria: age over 18 y; PCR positive for COVID-19; Dyspnea, cough, and fever at the time of admission; under invasive mechanical ventilation; Pulmonary involvement in lung imaging. Exclusion criteria: history of cardiovascular diseases; history of brain diseases; history of pulmonary diseases; pregnancy
Intervention groups
3 cc of adrenaline (1 in 1000) plus 2 cc of normal saline is prescribed for case group.
Main outcome variables
Oxygen saturation

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20210613051560N1**
Registration date: **2021-12-20, 1400/09/29**
Registration timing: **prospective**
Last update: **2021-12-20, 1400/09/29**
Update count: **0**
Registration date
2021-12-20, 1400/09/29

Registrant information
Name
Masoud Asadi-Khiavi
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2021-12-22, 1400/10/01
Expected recruitment end date
2022-04-21, 1401/02/01
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Evaluation of endotracheal epinephrine effect on Increasing Oxygen Saturation level in COVID-19 patients with severe pulmonary involvement

Public title
Endotracheal epinephrine effect on COVID-19
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:

PCR positive for COVID-19 Tachypnea, cough and fever at the time of admission Under aggressive mechanical ventilation Pulmonary involvement in lung imaging

Exclusion criteria:

History of cardiovascular diseases History of brain diseases History of pulmonary diseases Pregnancy

Age

From **18 years** old

Gender

Both

Phase

3

Groups that have been masked

- Participant

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization will perform on eligible patients using intratracheal epinephrine or intratracheal normal saline in every other manner. From the beginning, it is agreed to assign individual numbers to the intervention group and even numbers to the control group. Then extract the random sample size from the table of random numbers and assign each number (odd number to the first patient and even number to the second patient) to each patient. In other words, the first patient to qualify for the study will enroll in the intervention group and be treated using intratracheal epinephrine, and the second patient to qualify will enroll in the control group and be treated using intratracheal normal saline. That is, randomization is done by marking the even and odd numbers assigned to each case and is not considered as a sequential (non-random) style. This process will continue until the groups are completed.

Blinding (investigator's opinion)

Single blinded

Blinding description

Patients are unaware of the type of intervention.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Zanjan University of Medical Sciences

Street address

Zanjan University of Medical Sciences, Dr.Sobouti Blvd., Zanjan,Iran

City

Zanjan

Province

Zanjan

Postal code

4513956184

Approval date

2021-10-27, 1400/08/05

Ethics committee reference number

IR.ZUMS.REC.1400.342

Health conditions studied

1

Description of health condition studied

COVID-19

ICD-10 code

J12.81

ICD-10 code description

Pneumonia due to SARS-associated coronavirus

Primary outcomes

1

Description

Oxygen saturation

Timepoint

Oxygen saturation is measured before intervention and 5, 10, 30 and 60 minutes after intervention.

Method of measurement

Using pulse oximetry and ABG

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Patients with severe COVID-19 under mechanical ventilation who receive intratracheal epinephrine. At the beginning of enrollment of patients in this group, for each patient in this group, 3 ml of adrenaline one in 1000 (manufactured by Iran Hormone Pharmaceutical Company) plus 2 ml of normal saline 0.9% (manufactured by Shahid Ghazi Pharmaceutical Company) is prescribed in a nebulized form. And the consequences mentioned in the presented plan are measured in the relevant schedule.

Category

Treatment - Drugs

2

Description

Control group: Patients with severe Covid-19 who receive intratracheal normal saline.

Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Mousavi Hospital, Zanjan
Full name of responsible person
Taraneh Naghibi
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Gavazang Road, Above Shahid Sabouti Boulevard, Ayatollah Mousavi Hospital, Zanjan, Iran.
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Zanjan University of Medical Sciences
Full name of responsible person
Alireza Shoghli
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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
Zanjan 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
Zanjan University of Medical Sciences
Full name of responsible person
Taraneh Naghibi
Position
Associate professor
Latest degree
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

Study Protocol
Yes - There is a plan to make this available

Statistical Analysis Plan
Not applicable

Informed Consent Form
Yes - There is a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
paper publication

When the data will become available and for how long
next one years

To whom data/document is available
all researchers

Under which criteria data/document could be used
research use

From where data/document is obtainable
Taraneh Naghibi

What processes are involved for a request to access data/document
By sending an email

Comments