Clinical Trial Protocol
Iranian Registry of Clinical Trials

02 Nov 2026

Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

Protocol summary

Study aim
Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

Design
The study will be double blind and clinical trial. 232 patients will be randomly divided into 2 groups. The groups will be parallel. The trial phase will be 3

Settings and conduct
Patients with covid-19 in Arak are divided into 2 groups by simple randomization with envelopes. The study is double-blind in which outcome evaluator and data analyst and participant are kept blind.

Participants/Inclusion and exclusion criteria
Inclusion criteria: age over 18 years, no pregnancy or lactation, no deficiency of G6PD enzyme, no history of calcium oxalate kidney stones, no sensitivity to drugs
Exclusion criteria: dissatisfaction

Intervention groups
Intervention group 1: Vitamin C tablets with a dose of 1 gram are given every 8 hours for 5 days. Intervention group 2: N-acetylcysteine tablets at a dose of 600 mg every 8 hours for 5 days.

Main outcome variables
Duration of hospitalization in the intensive care unit, percentage of oxygen saturation

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20141209020258N160**
Registration date: **2021-06-06, 1400/03/16**
Registration timing: **prospective**
Last update: **2021-06-06, 1400/03/16**
Update count: **0**

Registration date
2021-06-06, 1400/03/16

Registrant information

Name
Fariba Farokhi

Name of organization / entity
Arak University of Medical Sciences

Country
Iran (Islamic Republic of)

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+98 86 3222 2003

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-06-15, 1400/03/25

Expected recruitment end date
2022-06-15, 1401/03/25

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of the effect of vitamin C and N-acetyl cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

Public title
Comparison of the effect of vitamin C and N-acetyl

cysteine (NAC) on improving clinical symptoms and reducing the duration of hospitalization in patients with covid-19

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age over 18 years No pregnancy or breastfeeding Absence of G6PD deficiency No history of calcium oxalate kidney stones Lack of sensitivity to drugs

Exclusion criteria:

Dissatisfaction

Age

From **18 years** old

Gender

Both

Phase

3

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size

Target sample size: **232**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple individual randomization with random allocation with envelopes in 2 groups A and B . In this method, we selected a number of cards or letters as an intervention group and the same number of cards for the control group, then the cards were merged. One card was taken out and its allocation was registered and the card was returned to the other cards after leaving. Then the cards are merged again and we remove another card. This process continues to reach a random sequence according to sample size.

Blinding (investigator's opinion)

Double blinded

Blinding description

This study is a double-blind clinical trial. In this study, patients consciously consented to take vitamin C and N-acetylcysteine supplements but did not know the type of group they were entering. The drug is prescribed by infectious and internal medicine physicians in charge of the project and is randomly given to one of these two groups; However, the intern in charge of the project, who is responsible for registering questionnaires and collecting data, also does not know about the patient group.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics comittee of Arak University of Medical Sciences

Street address

Ethics comittee, Research center, Payambar Azam complex, Basij squre ,Sardasht,Arak

City

Arak

Province

Markazi

Postal code

3848176941

Approval date

2021-05-09, 1400/02/19

Ethics committee reference number

IR.ARAKMU.REC.1400.021

Health conditions studied

1

Description of health condition studied

Covid-19

ICD-10 code

U07.1

ICD-10 code description

COVID-19, virus identified

Primary outcomes

1

Description

Percentage of oxygen saturation

Timepoint

During the intervention

Method of measurement

Pulse oximetry

2

Description

Duration of hospitalization in the intensive care unit

Timepoint

During the intervention

Method of measurement

Observation

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: Vitamin C tablets with a dose of 1

gram are given every 8 hours for 5 days.

Category

Treatment - Drugs

2

Description

Intervention group 2: N-acetylcysteine tablets at a dose of 600 mg every 8 hours for 5 days.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Amiralmomenin hospital

Full name of responsible person

Dr Alireza Kamali

Street address

Amiralmomenin hospital, Sardasht, Arak

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, Arak 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

Vice chancellor for research, Arak 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

Arak University of Medical Sciences

Full name of responsible person

Dr Behnam Mahmodie

Position

Assistant professor

Latest degree

Specialist

Other areas of specialty/work

Anesthesiology

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Person responsible for scientific inquiries

Contact

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

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medicine student

Latest degree

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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