

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jun 2026

A Randomized, Multi-centric, Double-blind, Placebo-controlled study to Evaluate the Efficacy and Safety of Bromhexine, a serine protease (TMPRSS2) blocker, to prevent COVID-19

Protocol summary

Study aim

To evaluate the safety and efficacy of bromhexine in post exposure prophylaxis against COVID-19

Design

Clinical trial with controlled group, parallel design, double-blinded, multi-centric, randomized; phase 3 on 1050 patients. Randomization of the patients will be conducted using block randomization method via Rand function in Excel software.

Settings and conduct

The present study will be conducted at Imam Hossein, Shahid Labafinejad, Shohadaye Gomnam Medical Centers affiliated to Shahid Beheshti University of Medical Sciences, Tehran. The study designed as double blinded in which the participants and outcome assessors will be masked to their assignment.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Individuals who have the ability to understand and desire to sign the informed consent; Age of 18 years or more; Exposure and close contact with a COVID-19 patients within 4 days before entering the study; must agree not to enroll in another study prior to completion of Day 14 of study. Non inclusion criteria: individuals with low risk of exposure (wearing a face mask and an eye shield); individuals with exposure time of less than 15 minutes; patients who receive medication for prophylaxis or treatment if COVID-19; patients with any sign and symptoms of COVID-19; Taking the medication for less than 3 days; COVID-19 compatible symptoms on day 1.

Intervention groups

Intervention group: patients will receive Bromhexine 8mg 3 times a day for 14 days. Control group: patients will receive placebo 3 times a day for 14 days.

Main outcome variables

Incidence of COVID-19 disease; COVID-19 disease severity

General information

Reason for update

In this update, we considered adding exclusion criteria to the record. based on the blinding of the statistical analyzers and outcome assessors, these two changes have been made. an interim analysis has been considered. considering the blinding strategy in this study, we blinded the outcome assessors and statistical analyzers from the study allocation. because of the incidence of the COVID-19 compatible symptoms in the 1st day in some patients and also some patients didn't take the medications as ordered, these two exclusion criteria have been considered. an interim analysis to assess the outcome occurrence is considered.

Acronym

IRCT registration information

IRCT registration number: **IRCT20120703010178N22**

Registration date: **2020-12-07, 1399/09/17**

Registration timing: **registered_while_recruiting**

Last update: **2021-07-06, 1400/04/15**

Update count: **1**

Registration date

2020-12-07, 1399/09/17

Registrant information

Name

Mohammad Sistanizad

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 8820 0087

Email address

sistanizadm@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-08-22, 1399/06/01

Expected recruitment end date

2020-12-21, 1399/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A Randomized, Multi-centric, Double-blind, Placebo-controlled study to Evaluate the Efficacy and Safety of Bromhexine, a serine protease (TMPRSS2) blocker, to prevent COVID-19

Public title

Bromhexine hydrochloride for prophylaxis against COVID-19

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Exposure and close contact (defined as being within 6 feet for a period of 15 minutes or more in a 24 hour period or 5 minutes or more for healthcare associated exposure) to a COVID-19 case within 4 days before entering the study must agree not to enroll in another investigational study prior to completion of Day 14 of study Individuals who have the ability to understand and desire to sign the informed consent Age of 18 years or more

Exclusion criteria:

Current Hospitalization Receipt of any experimental treatment for 2019-nCoV (off-label, compassionate use, or trial related) within the 30 days prior to the time of the screening evaluation Hypersensitivity to bromhexine or any component of the formulation Low risk in individuals in close contact (wearing face mask and eye shield) Individuals with exposure of less than 15 minutes Receipt of any medication for prophylaxis and treatment of 2019-nCoV Patients with any related sign and symptoms of COVID-19

Age

From **18 years** old

Gender

Both

Phase

3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **1050**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization will be recorded on an Excel file by the principal investigator. Participants will be randomized via permuted block randomization. Each block will be consistent of variable sizes of 4 or 6 or 8 patients. For assignment of each patient to the drug or placebo group, for each patients a unique code consistent of 2 letters and a digit will be assigned. the code will be unique for each patient (for example code AB1 for first patient). Only the principle investigator will be informed of the assignment of each code to the medication or placebo group.

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants will be provided masked study medicine, directly in research centers or shipped by courier service. The intervention vs. placebo will not be identical; however, participants and outcome assessors will be masked to their assignment.

Placebo

Used

Assignment

Parallel

Other design features

In this clinical trial an interim analysis in the sample size if 50% is allowed

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of School of Pharmacy and Nursing & Midwifery; Shahid Beheshti University of Medica

Street address

Niayesh complex; No 2660; Valiasr street; Tehran

City

Tehran

Province

Tehran

Postal code

6153- 14155

Approval date

2020-11-01, 1399/08/11

Ethics committee reference number

IR.SBMU.PHARMACY.REC.1399.247

Health conditions studied

1

Description of health condition studied

COVID-19

ICD-10 code

U07.1

ICD-10 code description
COVID-19, virus identified

2

Description of health condition studied
COVID-19

ICD-10 code
U07.2

ICD-10 code description
COVID-19, virus not identified

Primary outcomes

1

Description
Incidence of COVID-19 disease

Timepoint
At day 14

Method of measurement
Clinical assessment

2

Description
Ordinal Scale of COVID-19 disease severity

Timepoint
Censored at Day 14

Method of measurement
Clinical assessment

Secondary outcomes

1

Description
Hospitalization or death

Timepoint
Day 14

Method of measurement
Phone call

2

Description
Confirmed COVID-19 diagnosis

Timepoint
Day 14

Method of measurement
Self report

3

Description
Sign and Symptoms compatible with COVID-19

Timepoint
day 14

Method of measurement
Self report

4

Description
Treatment withdrawal or discontinuation

Timepoint
day 14

Method of measurement
self report

Intervention groups

1

Description
Intervention group: Receiving Bromhexine 8 mg 3 times a day for 14 days in patients with history of close contact to confirmed COVID-19 in past 4 days

Category
Treatment - Drugs

2

Description
Control group: Receiving placebo 3 times a day for 14 days in patients with history of close contact to confirmed COVID-19 in past 4 days

Category
Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center
Imam Hossein medical and educational center

Full name of responsible person
Mohammad Sistanizad

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Madani street

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2

Recruitment center

Name of recruitment center
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Full name of responsible person
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3

Recruitment center

Name of recruitment center
Shohadaye Gomnam hospital
Full name of responsible person
Mohammad Sistanizad
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Shahid Mohammad Reza Aazami street, Khavaran street, khorasan square, Tehran
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Hassan Yazdan Panah
Street address
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Province
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Postal code
1991953381
Phone
+98 21 8820 0118
Email
yazdanpanah@sbmu.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shahid Beheshti 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
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Mohammad Sistanizad
Position
Associated Professor / Clinical Pharmacy Specialist
Latest degree
Specialist
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Person responsible for scientific inquiries

Contact

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Person responsible for updating data

Contact

Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Omid Moradi
Position
Clinical resident
Latest degree
Medical doctor
Other areas of specialty/work
Medical Pharmacy
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O_moradi@sbmu.ac.ir

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

Yes - There is a plan to make this available

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

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

Title and more details about the data/document

Primary and secondary outcome data after making participants unrecognizable will be released

When the data will become available and for how long

6 months after publishing the results of primary outcome

To whom data/document is available

Any researchers will have access to the data after allowance of corresponding author

Under which criteria data/document could be used

Performing any analysis to any data resulted from this study will be allowed only with the permission of corresponding author

From where data/document is obtainable

Correspondance author

What processes are involved for a request to access data/document

After requesting for data, correspondence will check the authorization and then they will be informed about it

Comments