Clinical Trial Protocol
Iranian Registry of Clinical Trials

13 Nov 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 bromehexine 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
Street address
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City
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2

Recruitment center
Name of recruitment center
Labbafinejad Medical and Educational Center
Full name of responsible person
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Shadi_z73@yahoo.com

3

Recruitment center

Name of recruitment center
Shohadaye Gomnam hospital

Full name of responsible person
Mohammad Sistanizad

Street address
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
Shahid Beheshti School of Pharmacy, after Niayesh intersection; Valiasr street

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Province
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1991953381

Phone
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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

Other areas of specialty/work
Medical Pharmacy

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Department of Clinical Pharmacy, Shahid Beheshti School of Pharmacy, after Niayesh intersection; Valiasr street

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Web page address

Person responsible for scientific 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
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Other areas of specialty/work
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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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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 form 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