# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

13 Nov 2026

## Efficacy study of allogeneic human menstrual blood stem cells secretome to treat moderate to severe Covid-19 patients, clinical trial phase III

## Protocol summary

**Study aim**

Evaluation of efficacy of injection of menstrual blood-derived stem cells secretome in patients with Covid-19 moderato to severe pneumonia

**Design**

A clinical trial with the control group, with parallel groups, double-blind, randomized, phase 3 on 90 patients. Web random rendering software will be used for randomization.

**Settings and conduct**

The study population is selected according to the inclusion and exclusion criteria and consent is obtained from all and then these people are divided into two groups of intervention and control groups using randomization. The culture medium of allogeneic menstrual blood stem cells is collected in a cleanroom of Ibn Sina Research Institute and evaluated for contamination and then injected intravenously into patients with severe pneumonia caused by Covid-19.

**Participants/Inclusion and exclusion criteria**

Age 20 to 75 years, confirmed pneumonia caused by Covid-19, a positive test (RT-PCR) for Covid-19, diagnosed with severe disease: shortness of breath and respiratory distress, Respiratory rate ≥ 30 times/min; % of blood oxygen saturation at rest ≤ 90%; PaO2/FiO2 ratio≤ 300mmHg; Pulmonary infiltration more than 50% within 24 to 48 hours or moderate disease: Presence of respiratory symptoms with or without fever equal to/greater than 38 ° C; Percentage of blood oxygen saturation in Room air at rest between 90 to 93%; Pulmonary infiltration less than 50%

**Intervention groups**

Intervention group: treat with the fusion of the allogeneic supernatant of menstrual blood stem cells. Control group: in addition to receiving routine national treatments, undergo intravenous injection of normal saline.

**Main outcome variables**

Determination of efficacy of injection of menstrual blood-derived allogeneic stem cells secretome in patients with moderate to severe pneumonia caused by Covid-19

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20180619040147N7**
Registration date: **2021-08-12, 1400/05/21**
Registration timing: **registered_while_recruiting**

Last update: **2021-08-12, 1400/05/21**
Update count: **0**

**Registration date**

2021-08-12, 1400/05/21

**Registrant information**

**Name**

Maryam Darzi

**Name of organization / entity**

**Country**

Iran (Islamic Republic of)

**Phone**

+98 21 2243 2020

**Email address**

m.darzi@ari.ir

**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2021-07-23, 1400/05/01

**Expected recruitment end date**

2021-10-22, 1400/07/30

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**
empty

**Scientific title**
Efficacy study of allogeneic human menstrual blood stem cells secretome to treat moderate to severe Covid-19 patients, clinical trial phase III

**Public title**
Treatment of Covid-19 using menstrual blood stem cell secretome

**Purpose**
Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**
Aged 40-65 years Voluntarily participate in this clinical trial and sign off "informed consent form" Chest imaging confirm COVID-19 featured lesions in the lung The SARS-CoV-2 nucleic acid test was positive Diagnosed with severe pneumonia of COVID-19: respiratory distress, Respiratory rate (RR) ≥ 30 times/min; resting oxygen saturation of 90% or less; arterial pressure of oxygen/the fraction of inspired oxygen≤ 300 mmHg; pulmonary imaging of focus within 24-48 hours > 50% progression Patients with a diagnosis of moderate pneumonia caused by Covid-19: 1- Presence of respiratory symptoms (including shortness of breath, feeling of pain and pressure in the chest, ...) with or without fever equal to / greater than 38 ° C 2- Percentage of blood oxygen saturation in Room air at rest between 90 to 93% 3- Pulmonary infiltration less than 50%

**Exclusion criteria:**
History of drug reactions or allergies Pneumonia caused by bacteria, Mycoplasma, Chlamydia, Legionella, fungi, or other viruses Airway obstruction due to lung cancer or unknown factors Carcinoid syndrome History of epilepsy and long-term use of anticonvulsant drugs during the last 3 years History of long-term use of immunosuppressive drugs History of chronic respiratory illness that requires long-term oxygen therapy The patient is on blood or peritoneal dialysis Creatinine clearance <15 ml / min Moderate to severe liver disease (Child-Pugh score> 12) History of deep vein thrombosis (DVT) or pulmonary embolism over the past 3 years Being under ECMO or high-frequency oscillatory ventilation support Diagnostic of HIV, hepatitis B, and syphilis Pregnant or lactating women Lack of consciousness and inability to provide informed consent by the patient

**Age**
From **20 years** old to **75 years** old

**Gender**
Both

**Phase**
3

**Groups that have been masked**

- Participant
- Data analyser

**Sample size**
Target sample size: **90**

**Randomization (investigator's opinion)**
Randomized

**Randomization description**
In this study, a simple computer-aid randomization method is used. In this method, a list of numbers from 1 to 90 is prepared, and each number is randomly assigned to groups A or B by a computer. Depending on the time of hospitalization, these numbers are assigned to the patients, respectively, and based on the list of patients, they are assigned to intervention group A (routine treatment with cell therapy) and control group B (routine treatment with normal saline injection). So that in each group there are 45 patients.

**Blinding (investigator's opinion)**
Double blinded

**Blinding description**
This study is a double-blind trial ( participants and data and outcome assessors). Because the drug is in the form of a stem cell supernatant cultured in a phenol-free culture medium, this medium is similar in color and volume to a normal saline injection serum, and therefore at the time of injection, The patient will not notice any difference in the color or volume of the medicine. The data analyst will also not know which of the drug/placebo options each patient receives and is unaware of the nature of the codes assigned to patients.

**Placebo**
Used

**Assignment**
Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**
Research Ethics Committees of Avicenna Research Institute

**Street address**
Avicenna Research Institute, Shahid Beheshti University, Shahid Chamran Highway, Tehran, Iran

**City**
Tehran

**Province**
Tehran

**Postal code**
1983969412

**Approval date**
2021-07-19, 1400/04/28

**Ethics committee reference number**
IR.ACECR.AVICENNA.REC.1400.008

## Health conditions studied

### 1

**Description of health condition studied**
moderate to severe covid-19 patients

**ICD-10 code**
U07.1
**ICD-10 code description**
COVID-19, virus identified

## Primary outcomes

### 1

**Description**
Decrease in serum CRP levels
**Timepoint**
On days 0, 3, 5, 7, 10, 14, 21, 28 after the first intervention
**Method of measurement**
Laboratory evaluation

### 2

**Description**
Decrease in serum levels of lactate dehydrogenase
**Timepoint**
On days 0, 3, 5, 7, 10, 14, 21, 28 after the first intervention
**Method of measurement**
Laboratory evaluation

### 3

**Description**
Decrease in serum D-Dimer levels
**Timepoint**
On days 0, 3, 5, 7, 10, 14, 21, 28 after the first intervention
**Method of measurement**
Laboratory evaluation

### 4

**Description**
Decrease in lymphopenia percentage
**Timepoint**
On days 0, 3, 5, 7, 10, 14, 21, 28 after the first intervention
**Method of measurement**
Laboratory evaluation

### 5

**Description**
Reduce the size of the lesion on CT scan of the lungs
**Timepoint**
En On days 0, 10, 28 after the first intervention
**Method of measurement**
CT Scan

## Secondary outcomes

### 1

**Description**
Improving respiratory efficiency
**Timepoint**
Before the intervention until the one month after the first intervention on a daily basis
**Method of measurement**
Measuring PaO2 / FiO2 ratio or percentage of blood oxygenation

### 2

**Description**
Increasing the number of patients weaning from mechanical ventilation
**Timepoint**
Daily for one month after the first injection
**Method of measurement**
Observation

### 3

**Description**
Reduce the number of days hospitalized in the ICU
**Timepoint**
Daily for one month after the first injection
**Method of measurement**
Observation

### 4

**Description**
Reducing the incidence of failure of various organs
**Timepoint**
Daily for one month after the first injection
**Method of measurement**
Observation

### 5

**Description**
Reduce mortality rate
**Timepoint**
Daily for one month after the first injection
**Method of measurement**
Counting people

## Intervention groups

### 1

**Description**
Intervention group: patients are treated by intravenous injection of 5 times supernatant culture medium of allogeneic menstrual blood-derived stem cells. After isolation and culture in a cleanroom under the GMP of Sina Eltiam Biomedical Engineering Company GMP and passing and quality control tests, stem cells are stored in the cell bank. After cell thawing and culture in a GMP-approved culture medium, this surface culture medium is collected and centrifuged to remove cells and cell debris, and after filtration, quality control tests are performed on the collected culture medium. The 5 ml cell secretion is then filled into sterile vials and packaged. Each vial dissolved in 100 ml of normal saline is injected through a peripheral vein over a period of 60 minutes.

**Category**
Treatment - Drugs

**2**

**Description**
Control group: in addition to receiving routine national treatments for this disease, 45 patients undergo intravenous injection of 100 ml of normal saline 5 times in completely similar conditions to the intervention group
**Category**
Placebo

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
Imam Khomeini hospital
**Full name of responsible person**
Ali Dehghan Manshadi
**Street address**
Dr. Gharib Street, At the end of Keshavarz Blvd, Imam Khomeini Hospital Complex
**City**
Tehran
**Province**
Tehran
**Postal code**
3314114197
**Phone**
+98 21 9116 0000
**Email**
sealdema@yahoo.com

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
Iranian academic center for education culture and research
**Full name of responsible person**
Mohammad-Reza Sadeghi
**Street address**
Avicenna Research Institute, Shahid Beheshti University, Shahid Chamran Highway, Tehran, Iran
**City**
Tehran
**Province**
Tehran
**Postal code**
1983969412
**Phone**
+98 21 2243 2020
**Email**
sadeghi@ari.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Iranian academic center for education culture and research
**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**
Tehran University of Medical Sciences
**Full name of responsible person**
علی دهقان منشادی
**Position**
Associate Professor
**Latest degree**
Specialist
**Other areas of specialty/work**
Infectious diseases
**Street address**
Dr. Gharib Street, At the end of Keshavarz Blvd, Imam Khomeini Hospital Complex
**City**
Tehran
**Province**
Tehran
**Postal code**
۱۴۱۹۷۳۳۱۴۱
**Phone**
+98 21 6119 0000
**Email**
Sealdema@yahoo.com

## Person responsible for scientific inquiries

**Contact**
**Name of organization / entity**
Iranian academic center for education culture and research
**Full name of responsible person**
Somaieh Kazemnejad
**Position**
Associate professor
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Biochemistry
**Street address**
Avicenna Research Institute, Shahid Beheshti University, Shahid Chamran Highway, Tehran, Iran

**City**
Tehran
**Province**
Tehran
**Postal code**
1936773493
**Phone**
+98 21 2243 2020
**Fax**
**Email**
kazemnejad_s@yahoo.com

## Person responsible for updating data

**Contact**
**Name of organization / entity**
Iranian academic center for education culture and research
**Full name of responsible person**
Somaieh Kazemnejad
**Position**
Associate professor
**Latest degree**
Ph.D.
**Other areas of specialty/work**
Biochemistry
**Street address**
Avicenna Research Institute, Shahid Beheshti University, Shahid Chamran Highway, Tehran, Iran
**City**
Tehran
**Province**
Tehran
**Postal code**
1936773493
**Phone**
+98 21 2243 2020
**Email**
kazemnejad_s@yahoo.com

## 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**
No - There is not 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**
Not applicable
**Data Dictionary**
Not applicable