

Clinical Trial Protocol

Iranian Registry of Clinical Trials

23 Feb 2026

Investigating the hemoperfusion effect on the recovery of hospitalized patients with severe COVID-19 symptoms in Imam Khomeini Hospital, Urmia; a before-after pilot study

Protocol summary

Study aim

Determining the effect of hemoperfusion on the improvement of symptoms of Covid-19 patients who are hospitalized with severe symptoms and the symptoms are resistant to common treatments

Design

A single-arm clinical trial without blinding and randomization on a group of patients involving at least 20 patients

Settings and conduct

Patients admitted to Imam Khomeini Hospital in Urmia with severe symptoms of COVID-19 will undergo hemoperfusion in two sessions. The variables studied in this study include para-clinical examinations (WBC changes, renal and hepatic profile), hospitalization period, age, sex and body mass index, vital signs. After completion of two sessions of hemoperfusion (blood pressure, heart rate, respiration rate, arterial blood oxygen level), pulmonary involvement severity (according to control CT-scans), and mortality will be recorded. Complications of hemoperfusion related to catheter insertion and complication occurred during the hemoperfusion will be recorded too

Participants/Inclusion and exclusion criteria

Patients with severe symptoms following Covid-19 with pulmonary involvement according to CT scan more than 50%, and in patients with pulmonary involvement less than 50% who has respiratory distress, or despite receiving oxygen with a reservoir mask or non-invasive ventilation So₂ is less than 88%. And the patients should not have any coagulation disorder, vasculitis, sepsis and malignancy and severe underlying disease that reduces life expectancy

Intervention groups

Patients will undergo hemoperfusion for 3 hours with a special cartridge to remove inflammatory cytokines that damage the organs through a femoral catheter. Then the

patient's symptoms are evaluated if necessary. Another 3-hour hemoperfusion session is performed

Main outcome variables

respiratory status based on SO₂, renal and hepatic function, State of consciousness

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180625040232N7**

Registration date: **2020-11-30, 1399/09/10**

Registration timing: **registered_while_recruiting**

Last update: **2020-11-30, 1399/09/10**

Update count: **0**

Registration date

2020-11-30, 1399/09/10

Registrant information

Name

Saman Farshid

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 44 3346 9931

Email address

farshid.s@umsu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-11-10, 1399/08/20

Expected recruitment end date

2021-02-08, 1399/11/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the hemoperfusion effect on the recovery of hospitalized patients with severe COVID-19 symptoms in Imam Khomeini Hospital, Urmia; a before-after pilot study

Public title

The effect of hemoperfusion on patients with severe symptoms of covid-19 which are resistant to conventional therapies

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Covid-19 patients admitted with severe symptoms who do not respond to conventional therapies based on guidelines satisfaction with performing of hemoperfusion lung involvement more than 50% according to Chest- CT imaging In patients with lungs involvement less than 50% with respiratory distress, or SO₂ less than 88%, despite receiving supplementary oxygen with a reservoir mask or NIV

Exclusion criteria:

uncorrected coagulopathy in patients vasculitis sepsis Patients with low life expectancy due to underlying disease

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 20

Randomization (investigator's opinion)

N/A

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Single

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Urmia University of Medical Sciences

Street address

Urmia University of Medical Sciences, Resalat Blvd- Emergency Alley, Urmia, Vest Azarbaijan

City

Urmia

Province

West Azarbaijan

Postal code

5714783734

Approval date

2020-11-11, 1399/08/21

Ethics committee reference number

IR.UMSU.REC.1399.259

Health conditions studied**1****Description of health condition studied**

Hospitalized patients with COVID-19 symptoms

ICD-10 code

U07.1

ICD-10 code description

COVID-19, virus identified

Primary outcomes**1****Description**

Respiratory status regarding So₂

Timepoint

After performing of two session hemoperfusion

Method of measurement

By pulse oximetry

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group: There is one intervention group that includes COVID-19 patients admitted with severe symptoms who are resistant to common medical treatments. These patients will undergo hemoperfusion in 2 sessions and then the patients' paraclinical findings and vital signs will be evaluated.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini hospital Urmia

Full name of responsible person

Saman Farshid

Street address

Imam Khomeini hospital , Erash blvd , Urmia

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samanf63@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Oroumia University of Medical Sciences

Full name of responsible person

Dr Iraj Mohebi

Street address

Urmia University of Medical Sciences, Resalat Blvd-
Emergency Alley, Urmia, West Azarbaijan

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mohebbi_iraj@yahoo.co.uk

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Oroumia 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

Oroumia University of Medical Sciences

Full name of responsible person

Saman Farshid

Position

Assitant Professor

Latest degree

Subspecialist

Other areas of specialty/work

Urology

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Person responsible for scientific inquiries

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Person responsible for updating data

Contact

Name of organization / entity

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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

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Patients data will be shared based on codes assigned to patients

When the data will become available and for how long

6 months after the publication of the article

To whom data/document is available

University Faculty Members

Under which criteria data/document could be used

for research purposes

From where data/document is obtainable

sending an email to Dr Saman Farshid
samanf63@gmail.com

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

One week after sending the email and checking the purpose of the request

Comments