

Clinical Trial Protocol

Iranian Registry of Clinical Trials

23 Feb 2026

Comparison of therapeutic effects of hemoperfusion in intubated and non-intubated patients with respiratory failure caused by the COVID-19

Protocol summary

Study aim

Determination of therapeutic effects of hemoperfusion in intubated and non-intubated patients with respiratory failure caused by the COVID-19

Design

Clinical trial with one intervention group, with no control group and no blindness on 40 hospitalized patients with severe forms of COVID-19.

Settings and conduct

This nonrandomized with no blindness clinical trial will be performed in Loghman Hakim Hospital on patients after obtaining permission from the ethics committee on patients with respiratory failure caused by the COVID-19, who are on antiviral medication according to national protocol. Patients will be divided into two groups; intubated and non-intubated. Intervention group will be treated with hemoperfusion. Laboratory and clinical finding will be evaluated. The data will be analyzed by SPSS software.

Participants/Inclusion and exclusion criteria

The participants are hospitalized patients with severe forms of COVID-19. Inclusion Criteria: Patients with diagnosis of COVID-19 based on the clinical manifestations, lung CT-scan, testing of pharyngeal sample using real-time PCR and the physician's diagnosis; Patients who have SpO₂ less than 85%, and no improvement has been achieved despite 48 hours of standard treatment. Exclusion Criteria: Plasma platelets count less than 30000 per microliter; Multiple organ failure

Intervention groups

Intervention group: 40 eligible patients with severe COVID-19 in a 1:1 ratio: (20 intubated and 20 non-intubated) hemoperfusion + Standard of care treatment

Main outcome variables

O₂ Saturation CRP Ferritin Vasopressor need Length of hospital stay Mortality

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200608047686N2**

Registration date: **2020-11-19, 1399/08/29**

Registration timing: **registered_while_recruiting**

Last update: **2020-11-19, 1399/08/29**

Update count: **0**

Registration date

2020-11-19, 1399/08/29

Registrant information

Name

Muhanna Kazempour

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 5541 7243

Email address

muhannakazempour@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-10-17, 1399/07/26

Expected recruitment end date

2021-01-17, 1399/10/28

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of therapeutic effects of hemoperfusion in intubated and non-intubated patients with respiratory failure caused by the COVID-19

Public title

The role of hemoperfusion in COVID-19

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Hospitalized patients with respiratory failure caused by the COVID-19

Exclusion criteria:**Age**

From **18 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Not randomized

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 Shahid beheshti University of Medical Sciences

Street address

Yaman St, Velenjak, Shahid Chamran Highway

City

Tehran

Province

Tehran

Postal code

19857-17443

Approval date

2020-10-13, 1399/07/22

Ethics committee reference number

IR.SBMU.RETECH.REC.1399.582

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

COVID-19

ICD-10 code

U07.1

ICD-10 code description

COVID-19

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

O2 Saturation

Timepoint

Before and after the sessions of hemoperfusion

Method of measurement

Pulse Oximetry

2**Description**

CRP

Timepoint

Before and after the sessions of hemoperfusion

Method of measurement

Blood level

3**Description**

Ferritin

Timepoint

Before and after the sessions of hemoperfusion

Method of measurement

Blood level

4**Description**

Vasopressor need

Timepoint

Before and after the sessions of hemoperfusion

Method of measurement

Observation

Secondary outcomes**1****Description**

Lenght of hospitat stay

Timepoint

Daily up to discharge

Method of measurement

Days of hospitalization

2

Description

Mortality

Timepoint

Daily up to 28 days

Method of measurement

Observation

Intervention groups

1

Description

Intervention group: 40 eligible patients with severe COVID-19 in a 1:1 ratio: (20 intubated and 20 non-intubated)hemoperfusion + Standard of care treatment

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Loghman Hakim Hospital

Full name of responsible person

Muhanna Kazempour

Street address

Loghman Hakim Hospital, Kamali Street, South Karegar Avenue

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Afshin Zarghi

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Yaman St, Velenjak St, Shahid Chamran Highway

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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

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

Muhanna Kazempour

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Internal Medicine

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Person responsible for scientific inquiries

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Position

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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

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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

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

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

At the time of publication

When the data will become available and for how long

At the time of publication

To whom data/document is available

Public

Under which criteria data/document could be used

They will be publically available.

From where data/document is obtainable

The study protocol, statistical analytic plan will be shared
as supplementary material at the time of publication of
results

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

The study protocol, statistical analytic plan will be shared
as supplementary material at the time of publication of
results

Comments