

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 May 2026

Evaluating the safety and effectiveness of intravenous infusion of placenta-derived mesenchymal stem cells and placenta-derived mesenchymal stem cell exosomes in steroid-resistant acute GvHD patients; Phase I and II clinical trial

Protocol summary

Study aim

Evaluation of the safety and effectiveness of IV injection of placenta-derived mesenchymal stem cells and exosomes of placenta-derived mesenchymal stem cells in steroid-resistant acute GvHD patients; Phase I and II clinical trials

Design

A phase 1-2 clinical trial study has a control group with 60 patients, with parallel groups and double-blind and randomized. Randomization is simple.

Settings and conduct

This double-blind clinical trial is conducted on 60 patients with aGvHD in Shariati Hospital. Patients in three groups of cells, exosome and ruxolitinib are treated and followed up according to the protocol.

Participants/Inclusion and exclusion criteria

Inclusion criteria: patients aged 12 to 65 years - patients with acute aGvHD grade II-IV according to MAGIC criteria and steroid resistant according to EBMT-NIH-CIBMTR, patients who underwent allogeneic HSCT with the following conditions: related donor HLA (MRD), HLA unrelated donor (MUD), unrelated cord blood (UCB), haploidal donor - Exclusion criteria: positive serology for hepatitis B, C and HIV or fungal infection - uncontrolled diseases including persistent or active infection, symptomatic CHF, unstable angina, cardiac arrhythmia, transplant recipient for solid tumor - diagnosis of sinus occlusion syndrome (SOS) or veno-occlusive disease - pregnancy or lactation

Intervention groups

A: IV injection of a solution containing mesenchymal stem cells (MSCs) obtained from the human placenta from Viracellule Company, 1 million cells / kg of body weight, 4 times at intervals of 3 days. B: IV injection of a solution containing 1.2×10^{12} exosome of MSCs obtained from the human placenta from Viracellule

Company, 4 times with an interval of every 3 days. C: Ruxolitinib drug, Nano Alvand Company, 5 mg twice a day, orally, from day 0 to day 28 after injection.

Main outcome variables

Adverse events, complete response rate, overall survival rate

General information

Reason for update

Modifying the sample size based on the approval of the Research Council of the Research Center of Hematology, Oncology and cell Therapy - Tehran University of Medical Sciences

Acronym

IRCT registration information

IRCT registration number: **IRCT20140818018842N40**
Registration date: **2024-06-09, 1403/03/20**
Registration timing: **prospective**

Last update: **2024-07-03, 1403/04/13**

Update count: **1**

Registration date

2024-06-09, 1403/03/20

Registrant information

Name

Leyla Sharifi Aliabadi

Name of organization / entity

Research Institute for Hematology, Oncology and Stem Cell Transplantation, Tehran University of Medic

Country

Iran (Islamic Republic of)

Phone

+98 21 8490 3691

Email address

ctu@sina.tums.ac.ir

Recruitment status**Recruitment complete****Funding source**

- Participant
- Care provider
- Investigator
- Outcome assessor

Expected recruitment start date

2024-06-21, 1403/04/01

Expected recruitment end date

2025-12-22, 1404/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluating the safety and effectiveness of intravenous infusion of placenta-derived mesenchymal stem cells and placenta-derived mesenchymal stem cell exosomes in steroid-resistant acute GvHD patients; Phase I and II clinical trial

Public title

Placenta-derived mesenchymal stem cells and placenta-derived mesenchymal stem cells exosomes in the treatment of acute GvHD

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Acute aGvHD grade II-IV according to MAGIC criteria and steroid resistant according to EBMT-NIH-CIBMTR A patient who underwent allogeneic HSCT with the following conditions: HLA-matched donor (MRD), HLA-mismatched donor (MUD), unrelated cord blood (UCB), haploidal donor

Exclusion criteria:

Positive serology for hepatitis B, hepatitis C and AIDS virus or fungal infection Patients with penicillin and/or gentamicin allergy or known allergy to cow or pork products Participants with uncontrolled diseases including persistent or active infection, symptomatic congestive heart failure, unstable angina pectoris, cardiac arrhythmia, or psychiatric illness or specific social situations that limit compliance with study requirements Any condition that, in the investigator's judgment, interferes with full participation in the study, including the administration of study medication or participation in required study visits, or poses a significant risk to the participant, or interferes with the interpretation of study data Transplant recipient for solid tumor Diagnosis of Sinus Obstructive Syndrome (SOS) or Venous Obstructive Disease, at any time of study with appropriate tests Pregnancy and breastfeeding

AgeFrom **12 years** old to **65 years** old**Gender**

Both

Phase

1-2

Groups that have been masked**Sample size**Target sample size: **60****Randomization (investigator's opinion)**

Randomized

Randomization description

In this study, In order to reduce bias, randomization is done by online randomization method by a statistician. the randomization process was conducted using the Clinical Trial Randomization Tool provided by the National Cancer Institute (NCI) <https://ctrandomization.cancer.gov/> to assign 60 participants to 3 groups: Group A, B, & C. This randomization procedure was performed in a double-blind manner, ensuring that both investigators and participants remained unaware of the group assignments, and the randomization process was blinded. Then, in order to reduce to zero the possibility of interfering in the selection of the intervention group by the researcher, 60 envelopes (containing number 1 to 60 and intervention group A, B, or C) were prepared at the time of the start of the study based on the order of entry of the eligible participants into the study, randomly from one of the envelopes was sent to The order will be opened and the placement of the patient in the intervention group will be determined.

Blinding (investigator's opinion)

Double blinded

Blinding description

Patients will be placed in one of three study groups and will be blinded to which study group they will be placed in. The drug is injected to the patient by the researcher. And the nurses will be blind to which study group they are included in.

Placebo

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethic committee of Hematology- Oncology and cell therapy Research Institute, Tehran University of Me

Street address

Shariati Hospital, Jalal-e-Al-e-Ahmad Hwy

City

Tehran

Province

Tehran

Postal code

1411713135

Approval date

2024-04-06, 1403/01/18

Ethics committee reference number

IR.TUMS.HORCSCT.REC.1403.001

Health conditions studied

1

Description of health condition studied

Acute GvHD

ICD-10 code

D89.81

ICD-10 code description

Graft-versus-host disease

Primary outcomes

1

Description

Adverse events

Timepoint

day of injection, 1 and 2 weeks, 1, 3 and 6 months after the first injection

Method of measurement

History and clinical examination based on common terminological criteria for adverse events

Secondary outcomes

1

Description

Complete response rate

Timepoint

Day of injection, 1 and 2 weeks, 1, 3 and 6 months after the first injection

Method of measurement

Clinical examination

2

Description

Total survival rate

Timepoint

0 to 6 months

Method of measurement

Clinical evaluation

Intervention groups

1

Description

Intervention group: intravenous injection of a solution containing mesenchymal stem cells obtained from the human placenta is performed in 20 patients with acute graft-versus-host disease. Mesenchymal stem cells are injected at the rate of 1 million cells per kilogram of body

weight in 200 cc of normal saline and 4 times at intervals of 3 days in patients. Mesenchymal stem cells are obtained in the clean room of Viraselul company and necessary quality control tests are performed on the final product. Treatment follow-up is done in the first and second week and in the first, third and sixth months after the injection.

Category

Treatment - Drugs

2

Description

Intervention group: intravenous injection of a solution containing exosome of mesenchymal stem cells obtained from human placenta is performed in 20 patients with acute graft-versus-host disease. Exosome of mesenchymal stem cells is injected in the amount of 1.2×10^{12} exosomes in 50 cc of normal saline and 4 times with an interval of every 3 days in patients. Mesenchymal stem cells are obtained in the clean room of Viraselul company and necessary quality control tests are performed on the final product. Treatment follow-up is done in the first and second week and in the first, third and sixth months after the injection.

Category

Treatment - Drugs

3

Description

Control group: Ruxolitinib in 20 patients, NanoAlvand company, 5 mg twice daily, oral, 0 to 28 days after injection

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Hematology- Oncology and Stem Cell Transplantation Research Center, Tehran University of Medical Sci

Full name of responsible person

Dr. Maryam Barkhordar

Street address

Shariati hospital, Kargar shomali Ave.

City

Tehran

Province

Tehran

Postal code

1411713135

Phone

+98 21 8490 1000

Email

barkhordarm.n@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Ali Akbari Sari

Street address

Keshavarz Blvd.

City

Tehran

Province

Tehran

Postal code

1461884513

Phone

+98 21 8163 3685

Email

vcr@sina.tums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Tehran 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

Tehran University of Medical Sciences

Full name of responsible person

Maryam Barkhordar

Position

Assistant professor

Latest degree

Subspecialist

Other areas of specialty/work

Hematology

Street address

Kargar-e-Shomali Ave.

City

Tehran

Province

Tehran

Postal code

1411713131

Phone

+98 21 8800 4140

Email

barkhordarm.n@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Maryam Barkhordar

Position

Assistant professor

Latest degree

Subspecialist

Other areas of specialty/work

Hematology

Street address

Kargar-e-Shomali Ave.

City

Tehran

Province

Tehran

Postal code

1411713131

Phone

+98 21 8800 4140

Email

barkhordarm.n@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Amir Bajouri

Position

Reseracher

Latest degree

Ph.D.

Other areas of specialty/work

Cell Science and Application

Street address

Kargar-e-Shomali Ave.

City

Tehran

Province

Tehran

Postal code

1411713131

Phone

+98 21 8800 4140

Email

bajouri.md@gmail.com

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
Clinical study report in the form of an article
When the data will become available and for how

long
The access period starts 6 months after the results are published
To whom data/document is available
Researchers working in academic and scientific institutions
Under which criteria data/document could be used
Access to data and by request via email
From where data/document is obtainable
bajouri.md@gmail.com
What processes are involved for a request to access data/document
Within one month after the request, your request will be reviewed and the result will be announced.
Comments