Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Safety and efficacy of combination therapy with rituximab and activated allogeneic haplo-identical natural killer cells in relapsed/refractory non-Hodgkin's lymphoma patients

Protocol summary

Study aim

Safety and efficacy of combination therapy with rituximab and activated allogeneic haplo-identical natural killer cells in relapsed/refractory non-Hodgkin's lymphoma patients

Design

Clinical trial with control group, Un-randomized, open-labeled Sample size: 12, taking into account the loss: 15 Phase I and

Settings and conduct

Patients with relapsed/refractory non-Hodgkin's lymphomas referred to Taleghani Hospital, receiving combination therapy with rituximab (375mg/m2 intravenously) and haplo-identical allogeneic activated NK cells (with doses of 1x106 cells/kg, 5x106 cells/kg, 1x107 cells/kg and 1x107 cells/kg on days 0, 14, 28 and 42) after chemotherapy regimen of lymphocyte depletion including cyclophosphamide (250mg/m2 intravenously) and fludarabine (25mg/m2 intravenously).

Participants/Inclusion and exclusion criteria

Inclusion criteria: Patients with non-Hodgkin's lymphomas with the origin of B lymphocytes; patients with non-response or insufficient response to the first stage of treatment; patients with disease recurrence. Exclusion criteria: Non-Hodgkin's B-cell lymphomas patients with clinical and paraclinical full recovery; Non-Hodgkin's B-cell lymphomas patients with clinical and paraclinical appropriate response to the first stage of treatment.

Intervention groups

Intervention group: 6 patients with relapsed/refractory non-Hodgkin's lymphomas receiving combination therapy with rituximab and haplo-identical allogeneic activated NK cells. Control group: Patients with relapsed/refractory non-Hodgkin's lymphomas receiving only rituximab.

Main outcome variables

The adverse effects during or after combination therapy with allogeneic NK cells and rituximab.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230801058996N6**
Registration date: **2024-06-26, 1403/04/06**
Registration timing: **registered_while_recruiting**

Last update: **2024-06-26, 1403/04/06**
Update count: **0**

Registration date

2024-06-26, 1403/04/06

Registrant information

Name

Elham Roshandel

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 5798 4000

Email address

elham.roshandel@sbmu.ac.ir

Recruitment status

recruiting

Funding source

Expected recruitment start date

2024-06-21, 1403/04/01

Expected recruitment end date

2026-06-22, 1405/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Safety and efficacy of combination therapy with rituximab and activated allogeneic haplo-identical natural killer cells in relapsed/refractory non-Hodgkin's lymphoma patients

Public title

Combination therapy with rituximab and allogeneic natural killer cells in -Hodgkin's lymphoma

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Patients with non-Hodgkin's lymphomas with the origin of B lymphocytes confirmed based on WHO criteria and clinical and paraclinical evidence Patients with non-response or insufficient response to the first stage of treatment based on clinical and paraclinical evidence Patients with disease recurrence Patients with ECOG index of 0-2

Exclusion criteria:

Non-Hodgkin's B-cell lymphomas Patients with clinical and paraclinical full recovery Non-Hodgkin's B-cell lymphomas Patients with clinical and paraclinical appropriate response to the first stage of treatment

Age

From **12 years** old to **80 years** old

Gender

Both

Phase

1-2

Groups that have been masked

No information

Sample size

Target sample size: **15**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

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

Aarabi street, Yaman street, Chamran highway

City

Tehran

Province

Tehran

Postal code

1985711151

Approval date

2024-04-28, 1403/02/09

Ethics committee reference number

IR.SBMU.RETECH.REC.1403.037

Health conditions studied

1

Description of health condition studied

Relapsed/refractory non-Hodgkin's lymphoma

ICD-10 code

C85

ICD-10 code description

Other and unspecified types of non-Hodgkin lymphoma

Primary outcomes

1

Description

The adverse effects during or after combination therapy with allogeneic NK cells and rituximab.

Timepoint

From the first dose of NK cells infusion until six months after its last dose.

Method of measurement

The patient's statements and the medical team's examinations during the patient's regular visits to the bone marrow transplantation clinic for follow-up.

2

Description

Response to treatment (Based on hematologic, morphologic and molecular assessments).

Timepoint

From the first dose of NK cells infusion until six months after its last dose.

Method of measurement

Regular patient examination in bone marrow transplantation clinic for follow-up

Secondary outcomes

1

Description

Event Free Survival

Timepoint

From the first dose of NK cells infusion until six months after its last dose.

Method of measurement

Regular patient visits to bone marrow transplantation clinic for follow-up and regular telephone monitoring of patients.

2

Description
Progression free survival
Timepoint
From the first dose of NK cells infusion until six months after its last dose.
Method of measurement
Regular patient visits to bone marrow transplantation clinic for follow-up and regular telephone monitoring of patients.

3

Description
Non-relapse mortality
Timepoint
From the first dose of NK cells infusion until six months after its last dose
Method of measurement
Regular patient visits to bone marrow transplantation clinic for follow-up and regular telephone monitoring of patients.

4

Description
Overall survival
Timepoint
From the first dose of NK cells infusion until six months after its last dose
Method of measurement
Regular patient visits to bone marrow transplantation clinic for follow-up and regular telephone monitoring of patients.

Intervention groups

1

Description
Intervention group: Patients with relapsed/refractory non-Hodgkin's lymphomas referred to Taleghani Hospital. 6 patients in the intervention group receiving combination therapy with rituximab and haplo-identical allogeneic activated NK cells. Before the start of cell therapy, in order to remove the host's lymphocyte cells, the chemotherapy regimen of lymphocyte depletion including cyclophosphamide (250mg/m2 intravenously) and fludarabine (25mg/m2 intravenously) is performed for the patients. Patients receive rituximab drug (375mg/m2 intravenously) weekly and on the day before receiving NK cells. Activated NK cells are injected with doses of 1x106 cells/kg, 5x106 cells/kg, 1x107 cells/kg and 1x107 cells/kg on days 0, 14, 28 and 42. Also, during the treatment period, patients will be treated with preventive medicine. Up to 4 cycles of the maintenance regimen are allowed.
Category
Treatment - Other

2

Description
Control group: Patients with relapsed/refractory non-Hodgkin's lymphomas referred to Taleghani Hospital. Patients in the control group received only rituximab (375mg/m2 intravenously). Also, during the treatment period, patients will be treated with preventive medicine. Up to 4 cycles of the maintenance regimen are allowed.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Taleghani Hospital
Full name of responsible person
Elham Roshandel
Street address
Aarabi street, Yaman street, Chamran highway
City
Tehran
Province
Tehran
Postal code
۱۹۸۵۷۱۱۱۵۱
Phone
+98 21 2303 1658
Fax
+98 21 2303 1658
Email
info@sbmu.ac.ir
Web page address
https://taleghani.sbmu.ac.ir/

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Afshin Zarghi
Street address
Aarabi street, Daneshjou Boulevard, Velenjak
City
Tehran
Province
Tehran
Postal code
1985717443
Phone
+98 21 2243 9872
Fax
+98 21 2243 9872
Email

info@sbmu.ac.ir

Web page address

https://sbmu.ac.ir/

Grant name

Grant code / Reference number

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

No

Title of funding source

Pharmed Behin Azma

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Elham Roshandel

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Cell therapy

Street address

Aarabi street, Yaman street, Chamran highway

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+98 21 2303 1658

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Email

elham.roshandel@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Elham Roshandel

Position

Associate professor

Latest degree

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Other areas of specialty/work

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Person responsible for updating data

Contact

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Email

elham.roshandel@gmail.com

Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

Due to the confidentiality of patient information

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

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

Diagnosis: based on peripheral blood and bone marrow morphology, immunophenotyping, karyotype, and molecular tests. Treatment: chemotherapy, immunotherapy and hematopoietic cell transplantation. Results: of peripheral blood and bone marrow tests, flow cytometry, polymerase chain reaction and minimal residual disease before the intervention, after the last intervention, and on the 90th day after the intervention. All potential patient data can be shared after de-identifying them.

When the data will become available and for how long

Data files would be accessible after publication.

To whom data/document is available

Data files would be accessible to both academic researchers and industrial developers.

Under which criteria data/document could be used

Access to the data file will be provided for academic researchers to study. Data analysis is possible for use in meta-analysis review articles. Authentication of the applicant and provision of an academic email is required to access the data file.

From where data/document is obtainable

To receive the data file, please refer to the person in charge of the trial (Dr. Elham Roshandel): E-mail: elham.roshandel@gmail.com Phone number: 00982123031658 Address: Hematopoietic stem cell research center, Yas administrative complex, 4th floor, Taleghani Hospital, Aarabi street, Yaman street, Chamran highway, Tehran.

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

The applicant must state his/her request accurately and completely. The requested data will be provided within ten working days after receiving the request.

Comments