

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 Jun 2026

A comparative study of the effect of platelet-rich plasma (PRP) and granulocyte colony-stimulating factor (GCSF) in patients with recurrent implantation failure

Protocol summary

Study aim

Comparison of the effect of PRP and G CSF in the treatment of infertility

Design

Two arm parallel group randomised trial with blinded postoperative care and outcome assessment

Settings and conduct

This study will be conducted in the infertility department of Beheshti Hospital in Isfahan in 1401. A number of 50 patients are selected based on the inclusion and exclusion criteria and divided randomly into two intervention groups with PRP and GCSF after using a random number table. In this study, the researcher and the participants and analyser are blinded. In the group receiving PRP, 2.5 cc of PRP obtained from the patient's own blood is injected into the uterus. In the group receiving GCSF, they will receive 300 micrograms of subcutaneous GCSF one hour before transfergenin. Finally, the rate of positive pregnancy test (chemical pregnancy), implantation rate (clinical pregnancy) and pregnancy reaching 12 weeks (ongoing) pregnancy (in these two groups are compared).

Participants/Inclusion and exclusion criteria

inclusion criteria Age 20 to 45 years, Patients with recurrent implantation failure (RIF), Patients with a maximum of 10 unsuccessful transfers of embryos, informed consent, exclusion criteria: Hematological disorders (leukemia, thrombocytopenia), immunological disorders (antiphospholipid syndrome, thrombophilia), hormonal disorders (diabetes, thyroid, hyperprolactinemia), chromosomal and genetic abnormalities (hereditary or congenital), and kidney failure

Intervention groups

two groups. The group treated with platelet rich plasma and the group treated with Granulocyte colony-stimulating factor

Main outcome variables

Biochemical pregnancy gestational sac confirmation in ultrasound fetal heart confirmation pregnancy confirmation

General information

Reason for update

Acronym

EGS

IRCT registration information

IRCT registration number: **IRCT20220813055671N1**

Registration date: **2023-01-29, 1401/11/09**

Registration timing: **registered_while_recruiting**

Last update: **2023-01-29, 1401/11/09**

Update count: **0**

Registration date

2023-01-29, 1401/11/09

Registrant information

Name

Elnaz Mostajeran

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3336 8908

Email address

elnaz.mostajeran88@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-01-21, 1401/11/01

Expected recruitment end date

2023-02-20, 1401/12/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparative study of the effect of platelet-rich plasma (PRP) and granulocyte colony-stimulating factor (GCSF) in patients with recurrent implantation failure

Public title

Investigating the effect of PRP and GCSF on infertility

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

at least 3 and at most 10 implantation failure
The possibility of receiving enough platelets informed consent
age criteria 20 to 45

Exclusion criteria:

Hematological disorders (leukemia, thrombocytopenia)
immunological disorders (antiphospholipid syndrome, thrombophilia)
hormonal disorders (diabetes, thyroid, hyperprolactinemia)
chromosomal and genetic abnormalities (hereditary or congenital)
kidney failure

Age

From **20 years** old to **45 years** old

Gender

Female

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **50**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization in this study will be done in a simple and individual way. In this method, with the help of a random number table, each participant will be assigned a number. Then, based on the size of the research sample, a number of envelopes with aluminum wrapping (in view of the lack of clarity of the contents of the envelopes), preparation and each of the random sequences created on a card are recorded and the cards are placed inside the envelopes in order. In order to preserve the random sequence, the outer surface of the envelopes is numbered in the same order. Finally, the lid of the letter envelopes is glued and placed in a box in order. At the time of registration of the participants, according to the order of entry of the eligible participants into the study, one of the letter envelopes will be opened and the assigned group of that participant will be revealed in such a way that if the random sequence is even, he will enter the first group and if the sequence is odd, they will enter the second group.

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 Esfahan University of Medical Sciences

Street address

No84, lale dead end, parvaresh alley, kharazi street

City

Esfahan

Province

Isfahan

Postal code

8187645654

Approval date

2022-08-11, 1401/05/20

Ethics committee reference number

IR.MUI.MED.REC.1401.191

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

recurrent implantation failure

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

pregnancy

Timepoint

12weeks

Method of measurement

A positive answer for each of the factors alone: seeing the pregnancy sac or seeing the fetal heart in ultrasound or positive chemical pregnancy test.

Secondary outcomes

empty

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

Intervention group 1 GCSF subcutaneous injection of 300 micrograms once

Category

Treatment - Drugs

2

Description

Intervention group 2 PRP injection in the amount of 2.5 cc once intrauterine

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Beheshti hospital

Full name of responsible person

Elnaz mostajeran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

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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

Esfahan 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

Esfahan University of Medical Sciences

Full name of responsible person

Elnaz mostajeran

Position

Medical doctor, Resident

Latest degree

Medical doctor

Other areas of specialty/work

Gynecology and Obstetrics

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Person responsible for scientific inquiries

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Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Elnaz mostajeran

Position

Medical doctor, resident

Latest degree

Medical doctor

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

Esfahan University of Medical Sciences

Full name of responsible person

Elnaz Mostajeran

Position

Resident, Medical doctor

Latest degree

Medical doctor

Other areas of specialty/work

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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

There is no further information

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

Undecided - It is not yet known if there will be 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

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