Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Evaluation of platelet-rich plasma alone and in combination with microneedling in the treatment of androgenic alopecia

Protocol summary

Study aim

Determining and comparing the effectiveness of the platelet-rich plasma method alone and in combination with microneedling in the treatment of androgenetic alopecia

Design

Each participant is randomly assigned to one of two groups (A or B) based on their choice from a pool of 60 cards. The population of the present study is the group of men suffering with androgenetic alopecia grades 3, 4 and 5. Demographic information of people referred for the treatment of androgenetic alopecia is recorded. Patients are divided into two groups. A group of these patients are treated with PRP alone. The other group is treated with PRP in combination with microneedling.Beginning and post-treatment photos will be taken after follow-up (1 month) along with dermoscopic evaluation (at two fixed points on the scalp). Dry dermoscopy evaluation will be done using DermLite 4 dermatoscope with 10x magnification in polarized mode. Hair pull test will be done before and 1 month after the follow-up.

Settings and conduct

The analyst does not know which participant belongs to which group, allowing unbiased data analysis.The place of study is Razi Hospital and Imam Khomeini Hospital in Tehran.

Participants/Inclusion and exclusion criteria

Inclusion criteria: 1- Male patients aged 18 to 60 years old 2- Androgenic alopecia grades 5, 4, and 3 3- Not taking hormonal drugs and supplements Exclusion criteria: 1- Having uncontrolled diabetes 2- Tendency keloid 3- Anticoagulant therapy 4- People who have blood phobia 5- Anemia 6- History of malignancy and immunodeficiency diseases 7- People who have received other treatments such as minoxidil or finasteride 8- People with unreasonable expectations of treatment

Intervention groups

A group of these patients are treated with PRP alone. The other group is treated with PRP in combination with microneedling.

Main outcome variables

Androgenic alopecia

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20241001063231N1**
Registration date: **2024-11-19, 1403/08/29**
Registration timing: **registered_while_recruiting**

Last update: **2024-11-19, 1403/08/29**
Update count: **0**

Registration date

2024-11-19, 1403/08/29

Registrant information

Name

Behnaz Rangriz

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 8889 6696

Email address

behnazrangriz400@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-11-15, 1403/08/25

Expected recruitment end date

2025-06-15, 1404/03/25

Actual recruitment start date

empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Evaluation of platelet-rich plasma alone and in combination with microneedling in the treatment of androgenic alopecia

Public title
Evaluation of platelet-rich plasma alone and in combination with microneedling in the treatment of androgenic alopecia
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Male patients aged 18 to 60 years old Androgenic alopecia grades 5, 4, and 3 Not taking hormonal drugs and supplements
Exclusion criteria:
Having uncontrolled diabetes Tendency keloid Anticoagulant therapy People who have blood phobia Anemia History of malignancy and immunodeficiency diseases People who have received other treatments such as minoxidil or finasteride People with unreasonable expectations of treatment
Age
From **18 years** old to **60 years** old
Gender
Male

Phase
3
Groups that have been masked

- Data analyser

Sample size
Target sample size: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
For randomization in this study, the participants are divided into blocks, each block contains a number of participants. Participants are randomly assigned to groups (A or B) in each block. Each participant has an equal chance of being assigned to groups A or B. In this study, randomization will be done using SPSS software.
Blinding (investigator's opinion)
Single blinded
Blinding description
The analyst does not know which participant belongs to which group, allowing unbiased data analysis.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committee of Tehran University of Medical Sciences Faculty of Medicine
Street address
Ghods St., Porsina St., Faculty of Medical Sciences
City
Tehran
Province
Tehran
Postal code
1936893813
Approval date
2023-11-29, 1402/09/08
Ethics committee reference number
IR.TUMS.MEDICINE.REC.1402.488

Health conditions studied

1

Description of health condition studied
آلوپسی آندروژنتیک
ICD-10 code
L64
ICD-10 code description
Androgenic alopecia

Primary outcomes

1

Description
Hair growth rate
Timepoint
Both groups will receive treatment in three sessions at four-week intervals.
Method of measurement
Beginning and post-treatment photos will be taken after follow-up (1 month) and dermoscopic evaluation (at two fixed points on the scalp). Dry dermoscopy evaluation will be done using DermLite 4 dermatoscope with 10x magnification in polarized mode. A hair pull test will be done before and 1 month after the follow-up.

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: A group of these patients will treated with PRP (kits from a fixed company) with a 30-gauge insulin syringe alone.
Category

Treatment - Drugs

2

Description
Intervention group: The other group is treated by applying PRP to the head in combination with microneedling (A6 36-needle device).
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Razi Hospital
Full name of responsible person
Behnaz Rangriz
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Razi Hospital, Vahdat Eslami sq, Vahdat Eslami Street, Tehran, Iran
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2

Recruitment center
Name of recruitment center
Imam Khomeini Hospital
Full name of responsible person
Behnaz Rangriz
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Imam Khomeini Hospital Complex, end of Keshavarz Blvd., Tehran
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Dr Ali Akbari Sari
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Faculty of Medicine, Porsina St., Qods St., Tehran
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1461884513
Phone
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tumspr@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
Zahra Saffarian
Position
Assistant Professor of Dermatology
Latest degree
Specialist
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available

Study Protocol
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not 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
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available