Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Comparison of the Effectiveness of PRP Injection Using Peppering and Single-Point Methods in Patients with Plantar Fasciitis: a randomized clinical trial.

Protocol summary

Study aim

Comparing the effect of local injection of platelet-rich plasma (PRP) with the "peppering" technique versus single-point injection on pain in patients with chronic plantar fasciitis referred to Imam Khomeini and Shariati hospitals.

Design

The sample size (about 36 patients in each group, 72 in total) was divided into two groups using simple randomization.

Settings and conduct

This study is a randomized, single-blind clinical trial that will be conducted in the orthopedic and physical medicine departments of Imam Khomeini and Shariati hospitals in Tehran. Patients will be divided into two groups using a simple randomization method: After obtaining informed consent and approval from the ethics committee, PRP injection will be performed by palpation at the site of maximum pain: in group A, by the peppering method (3 injections of 1 ml) and in group B, by the single-point method (one injection of 3 ml). The injection will be performed as a single dose in one session.

Participants/Inclusion and exclusion criteria

Inclusion criteria:Age 18-65 years, clinical diagnosis confirmed by a physician, failure to respond to conservative treatment, and ability to cooperate in the study Exclusion criteria:History of surgery within the last year for plantar fasciitis, injection therapy, laser or shockwave therapy within the last 2 months, and use of Plavix within the last week

Intervention groups

- Group A: PRP injection with the peppering technique (3 small injections at points around the plantar fascia). - Group B: PRP injection with the single-point technique (one concentrated injection at the site of maximum pain and sensitivity).

Main outcome variables

The results of this study can help physicians choose the most appropriate PRP injection technique for patients with chronic plantar fasciitis, leading to improved treatment outcomes and reduced costs of care.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230111057111N2**
Registration date: **2026-04-20, 1405/01/31**
Registration timing: **prospective**

Last update: **2026-04-20, 1405/01/31**
Update count: **0**

Registration date

2026-04-20, 1405/01/31

Registrant information

Name

Amin Bakhshizadeh Imcheh

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 45 3342 3240

Email address

info@iauardabil.ac.ir

Recruitment status

recruiting

Funding source

Expected recruitment start date

2026-04-30, 1405/02/10

Expected recruitment end date

2028-07-31, 1407/05/10

Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of the Effectiveness of PRP Injection Using Peppering and Single-Point Methods in Patients with Plantar Fasciitis: a randomized clinical trial.

Public title
Studying the effect of two types of PRP injections in patients with plantar fasciitis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Age 18-65 years, clinical diagnosis confirmed by a physician, failure to respond to conservative treatment, and ability to cooperate in the study
Exclusion criteria:
History of surgery within the last year for plantar fasciitis, injection therapy, laser or shockwave therapy within the last 2 months, and use of Plavix within the last week
Age
From **18 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **72**
Randomization (investigator's opinion)
Randomized
Randomization description
Patients will be divided into two groups using a simple randomization method: - Group A: PRP injection with the peppering technique (3 small injections at points around the plantar fascia). - Group B: PRP injection with the single-point technique (one concentrated injection at the site of maximum pain and sensitivity).
Blinding (investigator's opinion)
Single blinded
Blinding description
This study is designed as a single-blind study. Patients will not be aware of the type of injection technique (peppering or single-point). The injecting physician will inevitably be aware of the technique, but the clinical assessor (who will record VAS and FFI at subsequent visits) will be completely unaware of the group allocation of patients.
Placebo
Not used
Assignment
Other
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committee of Dr. Shariati Hospital Educational, Research and Treatment Center - Tehr
Street address
Three ways of Jalal Al-Ahmad
City
tehran
Province
Tehran
Postal code
1411713135
Approval date
2025-12-25, 1404/10/04
Ethics committee reference number
IR.TUMS.SHARIATI.REC.1404.133

Health conditions studied

1

Description of health condition studied
Plantar fasciitis/heel spur
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Determination and comparison of the mean pain score (VAS) at 2 weeks and 12 weeks after injection in patients in intervention group A and intervention B-Determination and comparison of the foot functional status (FFI) score at 2 weeks and 12 weeks after injection in patients in intervention group A and intervention B-Determination and comparison of the incidence rate of various possible side effects after injection during follow-up in patients in intervention group A and intervention B-Determination and comparison of the mean pain score (VAS) and foot functional status (FFI) at the beginning of the study in patients in intervention group A and intervention B-Determination and comparison of the distribution of demographic and clinical characteristics at the beginning of the study in patients in intervention group A and intervention B
Timepoint
Change in mean pain intensity score based on the Visual Analogue Scale (VAS) from baseline (before injection) to 2 weeks and 12 weeks after PRP injection in the two peppering and single-point groups
Method of measurement
The Visual Analog Scale (VAS) will be used to assess the

severity of patients' pain, and the Foot Function Index (FFI) questionnaire will be used to assess foot function. Scores for both instruments will be collected and recorded through direct patient questionnaires.Visual Analog Scale (VAS): This instrument is used to measure pain severity and is designed based on the Likert scale. In this scale, pain severity is reported as a number from 0 to 10, with 0 indicating complete absence of pain and 10 indicating the most severe pain imaginable.Foot Function Index (FFI): This questionnaire is used to assess the degree of foot dysfunction and consists of 17 questions categorized into three subscales: pain (5 questions), disability (9 questions), and mobility limitation (3 questions). Each question is scored numerically from 0 to 10. The final score for each subscale is calculated from the sum of the scores for its questions and determines the patient's level of pain, disability, and mobility limitation.

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: A:20 ml of blood is taken from the patient and PRP is prepared with a platelet concentration 4-6 times the baseline using a single-stage centrifuge and the standard Alpha kit. After obtaining informed consent, PRP is injected by palpation at the site of maximum tenderness. The injection is performed as a single dose in one session using the Peppering method (3 injections of 1 ml).

Category
Treatment - Other

2

Description
Intervention group: B: 20 ml of blood is taken from the patient and PRP with a platelet concentration of 4-6 times the baseline is prepared using a single-stage centrifuge and the standard Alpha kit. After obtaining informed consent, PRP injection is performed by palpation at the site of maximum tenderness. Single-point method (one 3 ml injection) The injection is performed as a single dose in one session.

Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Imam Khomeini Hospital Complex
Full name of responsible person
Ensieh Taftian
Street address
End of Keshavarz Boulevard
City
tehran
Province
Tehran
Postal code
۱۴۱۹۷۳۳۱۴۱
Phone
+98 21 6658 1625
Fax
+98 21 6658 1625
Email
Imamhospital@tums.ac.ir

2

Recruitment center
Name of recruitment center
Dr. Shariati Hospital
Full name of responsible person
Ensieh Taftian
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North Kargar St
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1411713135
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Ensieh Taftian
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Tehran
Postal code
1461884513
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+98 21 8895 3003
Email
deanmed@tums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
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

Amin Bakhshizadeh Imcheh

Position

Physical Medicine and Rehabilitation Resident

Latest degree

Medical doctor

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

Amin Bakhshizadeh Imcheh

Position

Physical Medicine and Rehabilitation Resident

Latest degree

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

Amin Bakhshizadeh Imcheh

Position

Physical Medicine and Rehabilitation Resident

Latest degree

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Other areas of specialty/work

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Phone

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Email

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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

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

After deidentifying people, all the data obtained from the research, including the demographic information of the samples, clinical information and the results of the intervention can be shared.

When the data will become available and for how long

It is possible to access the results after nine to twelve months from the publication of the results.

To whom data/document is available

Researchers in academic centers and scientific research centers.

Under which criteria data/document could be used

In order to data comparison in similar studies, the researchers of academic centers and scientific research centers have the possibility to receive data and re-

analyze it if they comply with the principles of ethics in research.

From where data/document is obtainable

Dr Amin Bakhshizadeh Imcheh with below email address:bakhshizadeh.dr@gmail.com and phone number:+989145339437

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

Researchers should send a written request to receive data to the relevant email address.A week after receiving an email , it will take action.

Comments