

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Comparative Effectiveness Of Ultrasound-Guided Dextrose injection And Radial Extracorporeal Shock Wave Therapy For The Treatment Of Chronic Plantar Fasciitis

Protocol summary

Study aim

Comparative Effectiveness Of Ultrasound-Guided Dextrose injection And Radial Extracorporeal Shock Wave Therapy For The Treatment Of Chronic Plantar Fasciitis

Design

Clinical trial with control group, with parallel groups, blinding is not done and randomization is done by closed envelopes.

Settings and conduct

This study was performed on patients with chronic plantar fasciitis referred to the PMR Clinics of IUMS . After performing physical examinations and the presence of tenderness in the medial part of the heel to confirm the diagnosis, lateral heel X-ray and diagnostic ultrasound will be performed. Patients are randomly assigned to be divided into two groups of 19 people. The treatment is performed at Firoozgar Hospital by a PMR resident.

Participants/Inclusion and exclusion criteria

Main inclusion criteria: age 18 to 65 years, point tenderness of medial calcaneal tubercle, Heel pain with first step in the morning or after prolonged standing , thickness of plantar fascia greater than 4 mm in ultrasound and resistant to supportive treatments for at least three months Main exclusion criteria: coagulopathy, history of foot and ankle fracture or surgery, recent 6 weeks corticosteroid injection, bilateral plantar fasciitis, pregnancy and receive plantar fasciitis treatment in the last 6 months

Intervention groups

In the first group, 1.5 cc dextrose 20% plus 0.5 cc lidocaine 0.5% will be injected into the maximum thickness plantar fascia under ultrasound-guided in-plane injection technique. The control group receive 3 sessions of low energy weekly. Shockwave Radial-SW type with Shock 2000 number, energy of 0.2 to 0.3 mj / mm² and frequency of 4 Hz focused on the Tenderness region.

Main outcome variables

The severity of morning and daily pain by Visual Analog Scale (VAS), Evaluation of foot and ankle function by Foot and Ankle Ability Measure (FAAM), Thickness of plantar fascia by Ultrasonography

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200223046590N1**

Registration date: **2020-04-08, 1399/01/20**

Registration timing: **prospective**

Last update: **2020-04-08, 1399/01/20**

Update count: **0**

Registration date

2020-04-08, 1399/01/20

Registrant information

Name

Lobaneh Janbazi

Name of organization / entity

Country

Iran (Islamic Republic of)

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+98 21 8855 3010

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janbazi.l@iums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-05-04, 1399/02/15

Expected recruitment end date

2021-05-05, 1400/02/15

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparative Effectiveness Of Ultrasound-Guided
Dextrose injection And Radial Extracorporeal Shock Wave
Therapy For The Treatment Of Chronic Plantar Fasciitis

Public title
Effect of Dextrose injection in treatment of Chronic
Plantar Fasciitis

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Patient's age 18 to 65 years Point Tenderness at the
Medial Calcaneal Tubercle Heel pain with the first step in
the morning or after prolonged standing Thickness of
plantar fascia greater than 4 mm in ultrasound Resistant
to supportive treatments for at least three months
Exclusion criteria:
Diabetes Mellitus Peripheral Neuropathy History of lower
extremity radicular pain in L5 and S1 spinal segments
Coagulation Disorders Vasculitis and Other Vascular
Diseases Tarsal Tunnel Syndrome Instability of foot and
ankle joints Foot and Ankle joints Arthritis Evidence of
cancer Acute infection Skin diseases History of foot and
ankle surgery History of foot and ankle fractures
Corticosteroid injection in the last 6 weeks Bilateral
Plantar Fasciitis Systemic Inflammatory Diseases
Pregnancy Receive shockwave therapy or injectable
plantar fasciitis treatment in the last 6 months

Age
From **18 years** old to **65 years** old

Gender
Both

Phase
2-3

Groups that have been masked
No information

Sample size
Target sample size: **38**

Randomization (investigator's opinion)
Randomized

Randomization description
Method of randomization: Block, Unit of randomization:
Individual, Tools used in randomization: Sealed Envelope

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 Iran University of Medical Science

Street address

Medical faculty, Iran University of Medical Science,
Hemmat High way

City

Tehran

Province

Tehran

Postal code

1449614535

Approval date

2019-09-17, 1398/06/26

Ethics committee reference number

IR.IUMS.FMD.REC.1398.349

Health conditions studied

1

Description of health condition studied

Plantar Fasciitis

ICD-10 code

M72.2

ICD-10 code description

Plantar fascial fibromatosis

Primary outcomes

1

Description

The severity of morning and daily pain

Timepoint

قبل از تزریق و شاکویو تراپی ، 1 ماه و 3 ماه پس از تزریق و شاکویو
تراپی

Method of measurement

Visual Analog Scale (VAS)

2

Description

Evaluation of foot and ankle function

Timepoint

Before injection and shock-wave therapy , 1 month and 3
months after injection and shock-wave therapy

Method of measurement

Foot and Ankle Ability Measure (FAAM)

3

Description

Thickness of plantar fascia

Timepoint

Before injection and shock-wave therapy , 1 month and 3
months after injection and shock-wave therapy

Method of measurement

Sonography

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: 20% dextrose injection at maximal thickness location in plantar fascia under ultrasound-guided in-plane injection technique

Category

Treatment - Drugs

2

Description

Control group: 3 sessions of low energy weekly shock-wave therapy focused on the tenderness area

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Firoozgar Hospital

Full name of responsible person

Alireza Kazemian

Street address

Department of Physical Medicine and Rehabilitation, Firuzgar Hospital, Valiasr Square

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Seyed Kazem Malakooti

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5th floor, Headquarters, Iran University of Medical Sciences, Hemmat Highway, Tehran

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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

Iran 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

Iran University of Medical Sciences

Full name of responsible person

Alireza Kazemian

Position

Resident of Physical Medicine and Rehabilitation

Latest degree

Medical doctor

Other areas of specialty/work

Physical Medicine

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Person responsible for scientific inquiries

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Full name of responsible person

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Position

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Latest degree

Specialist

Other areas of specialty/work

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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

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

No - There is not 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