Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Comparative study of the effects of shock wave therapy and dry needling on pain, Functional disability and ultasonographic changes on common extensors tendon in semiprofessional rocket athletes with tennis elbow

Protocol summary

Study aim
Comparative study of the effects of shockwave therapy and dry needling on pain, Functional disability and ultasonographic changes on common extensors tendon in semiprofessional rocket athletes with tennis elbow

Design
clinical trial with double blind, 30 patients,Block randomized

Settings and conduct
Patients are divided into two groups of 15 people, shock wave and dry needling and are evaluated before, after and one month after the treatment And the pain visual scale score, elbow functional questionnaire score and their tendon thickness are recorded. In this study, the evaluator and the researcher are two different people, and the evaluator and the statistician are blinded

Participants/Inclusion and exclusion criteria
Thirty patients between 18 and 40 years of age who have a semi-professional sports history (at least 3 days a week) for at least 1 year in racket sports (tennis, badminton, ping pong, squash) with a definite diagnosis of tennis elbow for at least 6 weeks and 4 to 7 on the VAS scale and not received any anti-inflammatory treatment during the treatment period. Exclusion conditions include patients with cervical radiculopathy or interosseous nerve entrapment, active infection, diffuse inflammatory rheumatic disease, history of surgery in the external epicondyle area, injury in the elbow area

Intervention groups
patients are divided into two groups of 15 ، shockwave and dry needling, patients are treated for 10 sessions in total, 3 sessions a week and receive interventions 2 sessions a week.In the shockwave group, this method is applied with a frequency setting of 15 Hz in the form of 2BAR and 2000 pulses, and in the dry needling group, the needles are inserted in the trigger point areas, which are the most painful areas in the external epicondyle of the elbow.

Main outcome variables
pain, functional disability ultasonographic changes (tendon thickness)

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20150602022539N13**
Registration date: **2022-07-19, 1401/04/28**
Registration timing: **prospective**

Last update: **2022-07-19, 1401/04/28**
Update count: **0**

Registration date
2022-07-19, 1401/04/28

Registrant information

Name
Ziaeddin Safavi Farokhi

Name of organization / entity
Semnan University of Medical Sciences

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-07-23, 1401/05/01

Expected recruitment end date
2022-11-22, 1401/09/01

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

Scientific title
Comparative study of the effects of shock wave therapy and dry needling on pain, Functional disability and ultasonographic changes on common extensors tendon in semiprofessional rocket athletes with tennis elbow

Public title
Effects of Shock wave therapy and Dry Needling on Common Extensors Tendon in Athletes with Tennis Elbow
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
semi-professional training at least three days a week training for at least one year training in racquet sports (tennis, badminton, ping pong, squash) symptoms for at least 6 weeks did not receive any anti-inflammatory therapy during treatment diagnosed with LE VAS 4-7
Exclusion criteria:
Patients with cervical radiculopathy active infection acute complication interosseous nerve entrapment history of diffuse inflammatory rheumatic disease history of external epicondyle surgery elbow injury skin lesion Open wound warfarin use history of past injections (such as corticosteroids, autophagy, mesotherapy) fracture complications Prosthesis internal fixator pacemaker depression severe anxiety neurological and cardio respiratory problems metal implantation in the area of application
Age
From **18 years** old to **40 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **30**
Randomization (investigator's opinion)
Randomized
Randomization description
Randomization method: Permuted block randomization Randomization unit: Person Stratified randomization: Not done Randomization instrument: Random allocation software (Excel) Random sequence generation: each block containing 4 people allocation concealment: not done
Blinding (investigator's opinion)
Double blinded
Blinding description
In this study, the therapist (the physiotherapist who performs the intervention) and the assessor (the one who performs the ultrasound imaging) are two different people, and the evaluator who performs the ultrasound imaging does not know what intervention the patient receives. Also, the statistician is blind to the data.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethic committee of Semnan University of Medical Sciences
Street address
Semnan University of Medical Sciences, Kilometer 5 Damghan road, Semnan
City
semnan
Province
Semnan
Postal code
5319899951
Approval date
2022-07-06, 1401/04/15
Ethics committee reference number
IR.SEMUMS.REC.1401.085

Health conditions studied

1

Description of health condition studied
tennis elbow-Lateral Epicondylitis
ICD-10 code
M77.1
ICD-10 code description
Lateral epicondylitis

Primary outcomes

1

Description
pain
Timepoint
Before treatment, immediately after treatment and one month after treatment
Method of measurement
Visual Analog Scale

2

Description

Functional disability

Timepoint

Before treatment, immediately after treatment and one month after treatment

Method of measurement

The Patient-Rated Tennis Elbow Evaluation (PRTEE) questionnaire

3

Description

Tendon thickness

Timepoint

Before treatment, immediately after treatment and one month after treatment

Method of measurement

Ultrasonographic apparatus

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: In the shockwave group, they receive three weeks of treatment and receive shock wave therapy two sessions every week, for a total of six sessions, this method is applied by setting the frequency of 15 Hz in the form of 2 BAR and 2000 pulses. shockwave is applied with an equal share of 2000 pulses at three points determined in Lateral epicondyl

Category

Treatment - Devices

2

Description

In the dry needling group, they receive three weeks of treatment and receive dry needling two sessions every week, for a total of six sessions.The needles are inserted into the trigger point areas, which are the most painful areas on the external epicondyle. They are rotated three to four times and left in place for ten minutes

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences

Full name of responsible person

Ziaeddin Safavi Farokhi

Street address

Mashahir Square, in front of Helal Ahmar, Semnan

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Sponsors / Funding sources

1

Sponsor

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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

Semnan 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

Semnan University of Medical Sciences

Full name of responsible person

Ziaeddin Safavi Farokhi

Position

Ph.D, Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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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
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