Clinical Trial Protocol
Iranian Registry of Clinical Trials

28 Jul 2026

Comparison of effectiveness of ultrasound guided versus blind injection of local corticosteroid on improvement of clinical and electrodiagnostic findings in patients with moderate carpal tunnel syndrome

Protocol summary

Summary

(1) Objective: Our aim in this study is to compare injection of corticosteroid by palpation and via ultrasound in improving daily function and electro diagnostic indices in patients with moderate carpal tunnel syndrome. (2) Design: In this study fifty patients with carpal tunnel syndrome referred to Imam Reza physical medicine and rehabilitation clinic, Tabriz will be included in the study after qualifying the inclusion and exclusion criteria and obtaining the informed consent . (3) Setting and conduct: Patients will be randomly divided to two groups of twenty five. For randomization we will use computerized randomization with Excel software. Inclusion criteria are confirmed diagnosis of disease using EMG-NCV and unwillingness to have surgery . Exclusion criteria are contraindications for corticosteroid injection, tenar atrophy, surgery or local injection treatments in last six months, severe carpal tunnel syndrome in EMG-NCV and neoplastic or traumatic source of pain. (4) Interventions: Patients will be divided into two groups of local injection of forty mg of methyl prednisolone with and without ultrasound guidance. In intervention group, the trans carpal route will be determined and confirmed by an experienced physical medicine specialist using ultrasound and in-plane approach. In the other group, injection will be performed by approaching palmaris longus muscle without using any other devices. Routine treatments including non-steroid anti inflammatory drugs and wrist splint for 6 weeks will be performed for all patients. (5) Main outcome measures: EMG-NCV criteria and Boston questionnaire scores will be assessed before study and after injection.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201408013217N9**
Registration date: **2015-01-15, 1393/10/25**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2015-01-15, 1393/10/25

Registrant information

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Fariba Eslamian
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Tabriz University of Medical Sciences
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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research of Tabriz University of Medical Sciences

Expected recruitment start date

2014-09-23, 1393/07/01

Expected recruitment end date

2015-03-20, 1393/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of effectiveness of ultrasound guided versus blind injection of local corticosteroid on improvement of clinical and electrodiagnostic findings in patients with moderate carpal tunnel syndrome

Public title
Evaluating the effects of using an ancillary method for performing local injections in patients with moderate carpal tunnel syndrome
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria : Confirmed diagnosis of disease using EMG-NCV; Unwillingness to have surgery. Exclusion criteria : Contraindications for corticosteroid injection; tenar atrophy; surgery or local injection treatments in last six months; severe carpal tunnel syndrome in EMG-NCV; neoplastic or traumatic source of pain.
Age
No age limit
Gender
Both

Phase
3
Groups that have been masked
No information
Sample size
Target sample size: **50**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Single 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 Tabriz University of Medical Sciences
Street address
Ethics committee, Tabriz University of Medical Sciences, Golgasht Street, Azadi Street, Tabriz
City
Tabriz
Postal code
Approval date
2014-09-01, 1393/06/10
Ethics committee reference number
9398

Health conditions studied

1

Description of health condition studied
Carpal tunnel syndrome
ICD-10 code
G56.0
ICD-10 code description
Carpal tunnel syndrome

Primary outcomes

1

Description
EMG-NCV criteria
Timepoint
Before study and after the injection
Method of measurement
By using EMG-NCV device

2

Description
Boston questionnare
Timepoint
Before study and after the injection
Method of measurement
By using Boston questionnare

Secondary outcomes

empty

Intervention groups

1

Description
In intervention group, the trans carpal route will be determined and confirmed by an experienced physical medicine specialist using ultrasound and in-plane approach.
Category
Treatment - Devices

2

Description
In the other group, injection will be performed by approaching palmaris longus muscle without using any other devices.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center

Imam Reza Hospital

Full name of responsible person

Dr. Fariba Eslamiyan

Street address

Department of Physical Medicine and Rehabilitation, Imam Reza Hospital, Daneshgah Square, Tabriz

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for research of Tabriz University of Medical Sciences

Full name of responsible person

Dr. Seyyed Kazem Shakouri

Street address

Vice Chancellor for research, Tabriz University of Medical Sciences, Daneshgah square, Tabriz

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Tabriz

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Vice Chancellor for research of Tabriz University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

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Position

Medicine student

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Person responsible for scientific inquiries

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Associate professor of Physical Medicine & Rehabilitation

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty