Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

Compare the effectiveness of two different methods of ultrasound-guided local corticosteroid injection in the treatment of patient with carpal tunnel syndrome.

Protocol summary

Summary

(1) Objective: our aim in this study is to compare the effectiveness of two different methods of ultrasound-guided local corticosteroid injection in the treatment of patient with carpal tunnel syndrome. (2) Design: in this study forty patients with carpal tunnel syndrome referred to Firuzgar physical medicine and rehabilitation clinic, Tehran, Iran 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. For randomization we will use randomized blocking method. (4) Interventions: ultrasound-guided local injection of forty mg of triamcinolone with the in-plane method; in the first group anterior to the median nerve and in the second group posterior to the median nerve will be done by a physical medicine and rehabilitation specialist. Routine treatments including wrist splint for 6 weeks will be performed for all patients. (5) Main outcome measures: electrodiagnostical and sonographic criteria, Boston questionnaire scores and VAS will be assessed in the 0, 6th week and 12th week.

General information

Acronym

CTS-Carpal Tunnel Syndrome

IRCT registration information

IRCT registration number: **IRCT2015101724572N1**
Registration date: **2016-05-25, 1395/03/05**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2016-05-25, 1395/03/05

Registrant information

Name

Arash Babaei-Ghazani

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for research of Iran University of Medical Sciences

Expected recruitment start date

2016-04-03, 1395/01/15

Expected recruitment end date

2016-09-05, 1395/06/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Compare the effectiveness of two different methods of ultrasound-guided local corticosteroid injection in the treatment of patient with carpal tunnel syndrome.

Public title

Compare two different methods of ultrasound-guided corticosteroid injection in the treatment of carpal tunnel syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: patients with signs and symptoms of carpal tunnel syndrome (including pain and sensory disturbances in the territory of median nerve) which is confirmed through EMG-NCS and by electrodiagnostic criteria are mild to moderate carpal tunnel syndromes. Exclusion criteria: severe carpal tunnel syndrome in EMG-NCV; tenar atrophy; contraindications for corticosteroid injection (including sensitivity to corticosteroids and symptoms of skin infection at the injection site); diseases which mimic CTS symptoms such as polyneuropathy, cervical radiculopathy, thoracic outlet syndrome; surgery or local injection treatments in last six months; neoplastic or traumatic source of pain; wrist bones fracture.

Age
No age limit

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double 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 Sciences

Street address
Ethics committee, Iran University of Medical Sciences, Hemmat Highway, Tehran

City
Tehran

Postal code
1449614535

Approval date
2015-07-26, 1394/05/04

Ethics committee reference number
IR.IUMS.REC.1394.9311524007

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
The severity of symptoms and functional limitations

Timepoint
Zero, six and twelve weeks after

Method of measurement
By using Boston questionnare

2

Description
The severity of symptoms

Timepoint
Zero, six and twelve weeks after

Method of measurement
Visual Analog Scale(VAS)

3

Description
Electrodiagnostic criteria

Timepoint
Zero, six and twelve weeks after

Method of measurement
By using EMG-NCV device

4

Description
Sonographic criteria

Timepoint
Zero, six and twelve weeks after

Method of measurement
By using Sonographic device

Secondary outcomes

1

Description
Side effects

Timepoint
Six and twelve weeks after

Method of measurement
questionnaire

Intervention groups

1

Description
In the first group,corticosteroid inject under the ultrasound-guid above the median nerve which will be done by an experienced physical medicine and rehabilitation specialist using in-plane approach.
Category
Treatment - Other

2

Description
In the other group, corticosteroid injection will be performed under the ultrasound-guid below the median nerve which will be done by an experienced physical medicine and rehabilitation specialist using in-plane approach.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Firuzgar hospital
Full name of responsible person
Dr Nadere Nikbakht
Street address
Department of Physical Medicine and Rehabilitation, Firuzgar Hospital, Valiasr Square, Tehran
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice President of Research Iran University of Medical Sciences
Full name of responsible person
Dr Motovalian
Street address
5th floor, Headquarters, Iran University of Medical Sciences, Hemmat Highway, Tehran
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Vice President of Research Iran 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

Person responsible for scientific inquiries

Contact
Name of organization / entity
Iran University of Medical Sciences
Full name of responsible person
Dr. Arash Babaei
Position
Associate Professor of Physical Medicine and Rehabilitation
Other areas of specialty/work
Street address
Department of Physical Medicine and Rehabilitation, Firuzgar Hospital, Valiasr Square, Tehran
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Web page address

Person responsible for updating data

Contact

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