Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Investigation a new therapeutic approach to improve motor function of upper limb in hemiplegia patients based on combination external repetitive trans magnetic brain stimulation and tracking exercises with modified joy stick

Protocol summary

Summary

Inclusion criteria: hemiplegia in dominant and spastic hand; at least 2 months after stroke; modified ashword scale 2-3; men and women with stroke in the age range 30-65; normal vision in perimetry test; MMSE score above10 and NIHSS score 7-15; range of motion in wrist and elbow Exclusion criteria: stroke origin heart emboli; heart pace maker and arrhythmia; fracture in upper limb; neurologic diseases such as Parkinson disease, Multiple Sclerosis and epilepsy; implant in skull; problem in occipital, limbic system and complementary area and unable to accompany for 4 weeks Purpose: Recent studies have shown effects of rTMS 1 Hz and joy stick on improve hand function of patients with stroke. The aim of this study is compare of the effect of combination of rTMS and joy stick simultaneously on the wrist and elbow joints movements and compare the results with use of magnetic stimulation, tracking exercise with joy stick and routine physical therapy. Design: Not blinded. Methods: Patients will be randomly divided into 4 groups and receive 10 sessions 70 minutes treatment, 4 sessions per week. Participants: Men and women with stroke in the age range 30-65, at least 2 months after stroke, with no cardiac source of embolism, heart pace maker and arrhythmia, Epilepsy and implant in skull. Interventions: 4 treatment groups consist of minutes routine rehabilitation(upper limb exercise therapy), treatment with rTMS 1 Hz, treatment with joy stick and treatment with combination of rTMS and joy stick, will treated for 10 sessions 70 minutes treatment, 4 sessions per week. Variables: Improvement of involved hand function, grip force, range of motion, spasticity, accuracy, time and distance of test will measured.

General information

Acronym

Trans magnetic stimulation and stroke

IRCT registration information

IRCT registration number: **IRCT201111088027N1**
Registration date: **2011-12-20, 1390/09/29**
Registration timing: **prospective**

Last update:
Update count: **0**

Registration date

2011-12-20, 1390/09/29

Registrant information

Name

Poopak Moatamed Vaziri

Name of organization / entity

Pardis Physical Therapy Center

Country

Iran (Islamic Republic of)

Phone

+98 8844335488424094

Email address

poopakmoatamedv@yahoo.com

Recruitment status

Recruitment complete

Funding source

Pardis Physical Therapy Center

Expected recruitment start date

2011-12-31, 1390/10/10

Expected recruitment end date

2012-04-19, 1391/01/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigation a new therapeutic approach to improve motor function of upper limb in hemiplegia patients based on combination external repetitive trans magnetic brain stimulation and tracking exercises with modified joy stick

Public title

The effect of trans magnetic stimulation to improve motor function of upper limb in hemiplegia patients

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: hemiplegia in dominant and spastic hand; at least 2 months after stroke; modified ashword scale 2-3; men and women with stroke in the age range 30-65; normal vision in perimetry test; MMSE score above10 and NIHSS score 7-15; range of motion in wrist and elbow Exclusion criteria: stroke origin heart emboli; heart pace maker and arrhythmia; fracture in upper limb; neurologic diseases such as Parkinson disease, Multiple Sclerosis and epilepsy; implant in skull; problem in occipital, limbic system and complementary area and unable to accompany for 4 weeks

Age

From **30 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

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

Tarbiat Modares University

Street address

Medical Sciences Department- Jalale ale ahmad avenue

City

Tehren

Postal code

175-14115

Approval date

2011-01-10, 1389/10/20

Ethics committee reference number

52/84482

Health conditions studied

1

Description of health condition studied

Stroke

ICD-10 code

G46*

ICD-10 code description

Vascular syndromes of brain in cerebrovascular diseases

Primary outcomes

1

Description

Improve grip force of involve hand

Timepoint

Pre and post of treatment

Method of measurement

Dynamometer

2

Description

Improve function of involve hand

Timepoint

Pre and post of treatment

Method of measurement

Fugle myer score- barthel score- NIHSS score

3

Description

Improve range of motion of joints of involve hand

Timepoint

Pre and post of treatment

Method of measurement

Wrist robo hab

4

Description

Improve spasticity of involve hand

Timepoint

Pre and post of treatment

Method of measurement

Wrist robo hab

5

Description
Improve accuracy, time and distance of test in involve hand
Timepoint
Pre and post of treatment
Method of measurement
Joy stick

Secondary outcomes

empty

Intervention groups

1

Description
10 sessions 70 minutes treatmant, 4 sessions per week Group 1(control): Per session, 30 minutes routine rehabilitation(upper limb exersice therapy), 20 minutes sham rTMS, 20 minutes exersice with sham joy stick
Category
Rehabilitation

2

Description
10 sessions 70 minutes treatmant, 4 sessions per week Group 2: Per session, 30 minutes routine rehabilitation(upper limb exersice therapy), 20 minutes rTMS 1 Hz on M1 of healthy hemisfer, 20 minutes exersice with sham joy stick
Category
Rehabilitation

3

Description
10 sessions70 minutes treatmant, 4 sessions per week Group 3: Per session, 30 minutes routine rehabilitation(upper limb exersice therapy), 20 minutes sham rTMS , 20 minutes exersice by joy stick in front of monitor and drawing the different charts.
Category
Rehabilitation

4

Description
10 sessions 70 minutes treatmant, 4 sessions per week Group 4: Per session, 30 minutes routine rehabilitation(upper limb exersice therapy), 20 minutes rTMS 1 Hz on M1 of healthy hemisfer , 20 minutes exersice by joy stick in front of monitor and drawing the different charts
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Firoozgar Hospital
Full name of responsible person
Poopak Moatamed Vaziri
Street address
First floor, Number 3, kakuti alley, Shariati street
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Pardis Physical Therapy Center
Full name of responsible person
Morteza Noorii
Street address
First floor- Nomber 3- Kakuti alley- Shariati street
City
Tehran
Grant name
-
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Pardis Physical Therapy Center
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
Pardis Physical Therapy Center
Full name of responsible person
Poopak Moatamed Vaziri
Position
PhD
Other areas of specialty/work
Street address
First floor, Number 3, kakuti alley, Shariati street
City
Tehran
Postal code
1639648813
Phone

+98 21 8844 3354

Fax

-

Email

poopakmoatamedv@yahoo.com

Web page address

-

Person responsible for scientific inquiries

Contact

Name of organization / entity

Pardis Physical Therapy Center

Full name of responsible person

Poopak Moatamed Vaziri

Position

PhD

Other areas of specialty/work

Street address

First floor, Number 3, kakuti alley, Shariati street

City

Tehran

Postal code

1639648813

Phone

+98 21 8844 3354

Fax

-

Email

poopakmoatamedv@yahoo.com

Web page address

-

Person responsible for updating data

Contact

Name of organization / entity

Pardis Physical Therapy Center

Full name of responsible person

Poopak Moatamed Vaziri

Position

PhD

Other areas of specialty/work

Street address

First floor, Number 3, kakuti alley, Shariati street

City

Tehran

Postal code

1639648813

Phone

+98 21 8844 3354

Fax

-

Email

poopakmoatamedv@yahoo.com

Web page address

-

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