Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of repetitive transcranial magnetic stimulation on the motor function of lower limbs patients with ischemic stroke: a before-after clinical trial

Protocol summary

Study aim
To assess the effect of repetitive transcranial magnetic stimulation on the motor function of lower limbs patients with ischemic stroke

Design
This is a before-and-after clinical trial without a control group without blinding in which eligible patients with ischemic stroke will be enrolled without randomization.

Settings and conduct
This study will be conducted at Sina Hospital in Hamadan city on 50 patients with ischemic stroke. Patients will be enrolled as a single group and will be compared to before the intervention. Therefore, blinding is not possible in this study.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Age 18 to 80 years, Ischemic stroke within the last month, Dominant hemiplegia, Spasticity due to stroke, Exclusion criteria: Stroke with cardiac embolism, Fracture or upper limb movement limitation, History of Parkinson's or multiple sclerosis, Upper limb movement disorder related to other than stroke, History of family epilepsy or history of arrhythmia, Presence of metal implants in the body

Intervention groups
Intervention group: Repetitive transcranial magnetic stimulation with an ATES device at a frequency of 1 Hz for 30 minutes, 5 times a week for 10 to 15 sessions

Main outcome variables
Primary outcome: Motor function

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20120215009014N547**
Registration date: **2024-12-14, 1403/09/24**
Registration timing: **prospective**

Last update: **2024-12-14, 1403/09/24**
Update count: **0**

Registration date
2024-12-14, 1403/09/24

Registrant information

Name
Jalal Poorolajal

Name of organization / entity
Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

Country
Iran (Islamic Republic of)

Phone
+98 81 1838 0090

Email address
poorolajal@umsha.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-12-21, 1403/10/01

Expected recruitment end date
2025-03-05, 1403/12/15

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of repetitive transcranial magnetic stimulation on the motor function of lower limbs patients with ischemic stroke: a before-after clinical trial

Public title
Effect of transcranial magnetic stimulation on the motor function of patients with stroke
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Age 18 to 80 years Ischemic stroke within the last month Dominant hemiplegia Spasticity due to stroke
Exclusion criteria:
Stroke with cardiac embolism Fracture or upper limb movement limitation History of Parkinson's or multiple sclerosis Upper limb movement disorder related to other than stroke History of family epilepsy or history of arrhythmia Presence of metal implants in the body
Age
From **18 years** old to **80 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **50**
Randomization (investigator's opinion)
N/A
Randomization description
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Single
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Hamadan University of Medical Sciences
Street address
Vice-chancellor for Research and Technology, Hamadan University of Medical Sciences, Fahmideh Ave
City
Hamadan
Province
Hamadan
Postal code
6517838695
Approval date
2024-10-26, 1403/08/05
Ethics committee reference number
IR.UMSHA.REC.1403.522

Health conditions studied

1

Description of health condition studied
Ischemic stroke
ICD-10 code
G46.4
ICD-10 code description
Cerebellar stroke syndrome

Primary outcomes

1

Description
Motor function of patients
Timepoint
Before intervention and 3 months after intervention
Method of measurement
Using the Modified Rankin Scale (mRS)

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Repetitive transcranial magnetic stimulation with an ATES device at a frequency of 1 Hz for 30 minutes, 5 times a week for 10 to 15 sessions
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Sina Hospital in Hamadan city
Full name of responsible person
Reza Hasan Kaviar
Street address
Sina Hospital, Mirzadeh Eshghi Ave.
City
Hamadan
Province
Hamadan
Postal code
6517838695
Phone
+98 81 3827 4184
Email
reza.kaviar9@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Dr. Reza Shokoohi
Street address
Hamadan University of Medical Sciences, Fahmideh Ave
City
Hamadan
Province
Hamadan
Postal code
6517838695
Phone
+98 81 3838 0717
Email
info.research@umsha.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Hamedan 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
Hamedan University of Medical Sciences
Full name of responsible person
Reza Hasan Kaviar
Position
Medical Student
Latest degree
Medical doctor
Other areas of specialty/work
General Practitioner
Street address
School of Medicine, Hamadan University of Medical Sciences, Fahmideh Ave.
City
Hamadan
Province
Hamadan
Postal code
6517838695
Phone
+98 81 3838 0572
Email
reza.kaviar9@gmail.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Dr. Mojtaba Khazaei
Position
Neurologist
Latest degree
Medical doctor
Other areas of specialty/work
General Practitioner
Street address
School of Medicine, Hamadan University of Medical Sciences, Fahmideh Ave.
City
Hamadan
Province
Hamadan
Postal code
6517838695
Phone
+98 81 3838 0572
Email
khazaeimojtaba@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Dr. Jalal Poorolajal
Position
Professor of Epidemiology
Latest degree
Medical doctor
Other areas of specialty/work
Neurology
Street address
School of Public Health, Hamadan University of Medical Sciences, Fahmideh Ave
City
Hamadan
Province
Hamadan
Postal code
6517838695
Phone
+98 81 3838 0090
Email
poorolajal@umsha.ac.ir

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