Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Aug 2026

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of hyposmia in patients with Covid-19

Protocol summary

Study aim
Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of prolonged anosmia and hyposmia in patients with Covid-19

Design
Clinical trial without control group as a case seris study on 10 patients.

Settings and conduct
Patients in the physical medicine ward of Hazrat Rasool Akram Hospital undergo four sessions of TDCS(Transcranial Direct Current Stimulation). Patients' sense of smell is measured by SIT (Smell Identification) Test before the intervention and one week after four TDCS sessions.

Participants/Inclusion and exclusion criteria
Age between 18 and 60 years Loss of sense of smell after Covid-19 (anosmia or hyposmia that has not improved for more than a month after the onset of symptoms and with routine treatment) Exclusion criteria also include cases in which the use of the TDCS method is contraindicated: 1. Pregnancy 2. History of chronic pain tolerance conditions 3. Seizures or family history of seizures 3. Implanted metal devices such as pacemakers, metal plate and wire 4. History of brain surgery

Intervention groups
Ten patients who develop a prolonged diminished or loss of sense of smell after Covid 19 disease receive four sessions of TDCS treatment. Patients' sense of smell is measured before the intervention and one week after the intervention, using the SIT test.

Main outcome variables
Olfactory sensitivity

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20180205038619N2**
Registration date: **2021-08-30, 1400/06/08**
Registration timing: **prospective**

Last update: **2021-08-30, 1400/06/08**
Update count: **0**

Registration date
2021-08-30, 1400/06/08

Registrant information

Name
Katayoun Moradi

Name of organization / entity

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Iran (Islamic Republic of)

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+98 21 8896 6574

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-09-10, 1400/06/19

Expected recruitment end date
2021-10-22, 1400/07/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of hyposmia in patients with Covid-19

Public title

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of prolonged decreased of sense of smell in patients with Covid-19

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 18 and 60 years Loss of sense of smell after Covid-19 (anosmia that has not improved for more than a month after the onset of symptoms and with routine treatment) Decreased of sense of smell after Covid-19 (anosmia that has not improved for more than a month after the onset of symptoms and with routine treatment)

Exclusion criteria:

Pregnancy Seizures or family history of seizures Implanted metal devices such as pacemakers, metal plate and wire History of brain surgery

Age

From **18 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **10**

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 Iran University of Medical Sciences

Street address

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

City

Tehran

Province

Tehran

Postal code

1449614535

Approval date

2021-01-05, 1399/10/16

Ethics committee reference number

IR.IUMS.REC.1399.1089

Health conditions studied

1

Description of health condition studied

covid-19

ICD-10 code

B34.2

ICD-10 code description

Coronavirus infection, unspecified

Primary outcomes

1

Description

Olfactory sensitivity

Timepoint

Patients are assessed before the intervention and one week after 4 sessions of TDCS.

Method of measurement

Participants' olfactory sensitivity will be measured by the Smell Identification Test (SIT) . In this method, 24 Iranianized odor such as rose, caffeine, saffron, etc. will be used and a score of 24 will be given, with a score of 19 to 24 being considered the normal range. A score of 14 to 18 is mild microsmia, a score of 10 to 13 is severe microsmia, and a score of 0 to 9 is anosmia.

Secondary outcomes

empty

Intervention groups

1

Description

The intervention group will receive a direct current of 2 mA for 20 minutes. In all patients, the anode electrode is located on the left DLPFC region and the cathode electrode is located on the right DLPFC region. The excitation current will be generated by a direct current generator with a maximum current of 4 mA (NeuroStim2 dual channel device). To transmit current, a 35 cm square electrode covered with 0.9% saline-impregnated sponge will be used.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Hazrat Rasul Akram Hospital

Full name of responsible person
Naseh Yousefi
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Hazrat Rasul Akram Hospital, Niyayesh St, Satarkhan Ave
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Iran University of Medical Sciences
Full name of responsible person
Dr. Seyed Ali Javad Mousavi
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5th floor, Headquarters, Iran University of Medical Sciences, Hemmat Highway, Tehran
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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
Iran 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
Iran University of Medical Sciences
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Katayoun Moradi
Position
Associate Professor of Physical Medicine and Rehabilitation
Latest degree
Specialist
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Yes - There is a plan to make this available
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
All the patient's data can be shared with privacy in regard to patients name
When the data will become available and for how long
Start accessing 6 months after publishing the results.
To whom data/document is available
For scholars working in academic centers
Under which criteria data/document could be used
It can be analyzed and printed by other people by mentioning the source
From where data/document is obtainable
Dr. Katayoun Moradi katayounmoradi69@gmail.com
What processes are involved for a request to access data/document
Upon authentication, data is provided to the individual.
Comments