Clinical Trial Protocol
Iranian Registry of Clinical Trials

06 Jun 2026

Comparison of the effects of levetiracetam, sodium valproate, and nortriptyline on migraine headaches control in migraine patients

Protocol summary

Study aim

Comparison of the effects of levetiracetam, sodium valproate and nortriptyline on migraine headaches

Design

In this study, 120 eligible patients with chronic daily headaches who are admitted to the Neurology Clinic of Vali-e-Asr Hospital in Birjand are incorporated. Participants are randomly assigned into one of the three intervention groups.

Settings and conduct

The study is performed in the Neurology Clinic of Vali-e-Asr Hospital in Birjand in a non-blinded manner.

Participants/Inclusion and exclusion criteria

Inclusion criteria consist of presence of migraine headaches (headache attacks over 3 attacks per month; each attack with an interval of more than 48 hours of relief from other attacks); age from 18 to 65 years; non-use of other anti-migraine drugs since at least one month ago; no allergy to levetiracetam, sodium valproate, and nortriptyline or their compounds; absence of acute migraine resistant to treatment; not having severe mental disorders; absence of neurodegenerative disorders; no malignancy; absence of pain disorders; no severe infection; and informed consent for participation. Exclusion criteria comprise of pregnant or breast-feeding women; irregular consumption of medications; suffering from severe drug side-effects during the course of the study, which may change treatment regimen; treatment-resistant acute migraine; severe psychiatric disorders; drug or alcohol dependence; renal dysfunction; and excessive use of acute migraine drugs.

Intervention groups

Levetiracetam Group: These patients will receive levetiracetam which will start at a dose of 250 milligrams per day in the first week followed by an increased dose of 250 milligrams per week reaching a dose of 1000 milligrams per day in the fourth week. Sodium Valproate Group: These patients will receive 500 milligrams of sodium valproate per day, starting at 250 mg per day in the first week. In the second week until the end of the fourth week of intervention, patients will receive 500 milligrams per day (250 milligrams twice a day). Nortriptyline Group: These patients will be prescribed nortriptyline at a dose of 25 milligrams per day throughout the study.

Main outcome variables

Severity of headache, frequency of headache, side effects (digestive, nervous, etc.)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20140519017756N39**
Registration date: **2018-02-20, 1396/12/01**
Registration timing: **registered_while_recruiting**

Last update: **2018-02-20, 1396/12/01**
Update count: **0**

Registration date

2018-02-20, 1396/12/01

Registrant information

Name

Mohammad Bagher Roozgar

Name of organization / entity

Birjand University of Medical Sciences

Country

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date
2018-01-30, 1396/11/10
Expected recruitment end date
2018-03-06, 1396/12/15
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of the effects of levetiracetam, sodium valproate, and nortriptyline on migraine headaches control in migraine patients

Public title
Effects of levetiracetam, sodium valproate, and nortriptyline on migraine headaches
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Presence of migraine headaches (headache attacks over 3 attacks per month; each attack with an interval of more than 48 hours of relief from other attacks) Age from 18 to 65 years Non-use of other anti-migraine drugs since at least one month ago No allergy to levetiracetam, sodium valproate, and nortriptyline or their compounds Absence of acute migraine resistant to treatment Not having severe mental disorders Absence of neurodegenerative disorders No malignancy Absence of pain disorders No severe infection Informed consent for participation
Exclusion criteria:
Pregnant or breast-feeding women Irregular consumption of medications Suffering from severe drug side-effects during the course of the study, which may change treatment regimen Treatment-resistant acute migraine Severe psychiatric disorders Drug or alcohol dependence Renal dysfunction Excessive use of acute migraine drugs
Age
From **18 years** old to **65 years** old
Gender
Both

Phase
3
Groups that have been masked
No information
Sample size
Target sample size: **120**
Randomization (investigator's opinion)
Randomized
Randomization description
The participants will be allocated into study groups via permuted block randomization.
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
Ethics Committee of Birjand University of Medical Sciences
Street address
Ghaffari Ave.
City
Birjand
Province
South Khorasan
Postal code
9717853577
Approval date
2018-01-29, 1396/11/09
Ethics committee reference number
IR.BUMS.REC.1396.313

Health conditions studied

1

Description of health condition studied
Migraine headaches
ICD-10 code
G43
ICD-10 code description
Migraine

Primary outcomes

1

Description
Headache severity
Timepoint
At the end of intervention
Method of measurement
Visual analogue scale

2

Description
Frequency of headache incidence
Timepoint
After intervention
Method of measurement
Patient daily notes during intervention

3

Description

Side effects (digestive, nervous, etc.)

Timepoint

After intervention

Method of measurement

Patient daily notes during intervention

Secondary outcomes

empty

Intervention groups

1

Description

Intervention Group 1 (Levetiracetam): These patients will receive levetiracetam which will start at a dose of 250 milligrams per day in the first week followed by an increased dose of 250 milligrams per week reaching a dose of 1000 milligrams per day in the fourth week.

Category

Treatment - Drugs

2

Description

Intervention Group 2 (Sodium Valproate): These patients will receive 500 milligrams of sodium valproate per day, starting at 250 mg per day in the first week. In the second week until the end of the fourth week of intervention, patients will receive 500 milligrams per day (250 milligrams twice a day).

Category

Treatment - Drugs

3

Description

Intervention Group 3 (Nortriptyline): These patients will be prescribed nortriptyline at a dose of 25 milligrams per day throughout the study.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Neurology Clinic of Valie-Asr Hospital

Full name of responsible person

Dr Hamidreza Riasi

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Ghaffari Ave.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Birjand University of Medical Sciences

Full name of responsible person

Dr Tooba Kazemi

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drtooba.kazemi@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Birjand University of Medical Sciences

Proportion provided by this source

50

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

Birjand University of Medical Sciences

Full name of responsible person

Zahra Ahani

Position

Medical Student

Latest degree

Medical doctor

Other areas of specialty/work

General Practitioner

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Person responsible for scientific inquiries

Contact

Name of organization / entity
Birjand University of Medical Sciences

Full name of responsible person
Dr Hamidreza Raesi

Position
Neurologist

Latest degree
Specialist

Other areas of specialty/work
Neurology

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Person responsible for updating data

Contact

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Position
Translator

Latest degree
Master

Other areas of specialty/work
Others

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
As part of the conditions set by participants for participation, no data about them can be distributed.

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
Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
study protocol

When the data will become available and for how long
The protocol will be published in a paper and will be available for as long as the paper is reachable.

To whom data/document is available
All readers of the paper

Under which criteria data/document could be used
No certain criteria

From where data/document is obtainable
the journal publishing the paper

What processes are involved for a request to access data/document
processes described by the journal

Comments