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Can treatment with N-PEP-12 improve recovery after acute ischemic stroke?

Submission date	Recruitment status	[_] Prospectively registered
11/02/2019	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
19/02/2019	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
03/03/2026	Circulatory System	

Plain English summary of protocol

Background and study aims
Impairment of mental (cognitive) processing is a common finding in patients with stroke, regardless of severity, and it has an important impact on quality of life. This is a pilot study to investigate the effects of N-Pep-12 treatment on the recovery of patients with post-stroke cognitive impairment. N-Pep-12 is a proprietary, peptide-based nutritional supplement that has been shown to exert neuroprotective and pro-cognitive effects in experimental studies as well as in earlier clinical studies in patients suffering from age-related cognitive deficits.

Who can participate?
Adults between 18 and 80 years with supratentorial ischemic stroke onset 30-120 days prior to screening.

What does the study involve?
Participants are invited to join this study at 30-120 days post stroke onset. After informing patients about study procedures, benefits and potential risks, they sign a consent form. All participants included in the study must pass the screening criteria and baseline evaluations. Individuals are then allocated to one of two groups. The first group is administered N-Pep-12 (90 mg) capsules, once per day, oral, for 90 days, while the second group doesn't get any treatment.

What are the possible benefits and risks of participating?
Potential benefit of N-Pep-12 administration is the improved cognitive function and brain recovery in patients with post-stroke cognitive impairment. The main risk for patients is developing adverse events (AE). Their severity and the causality to study medication is carefully assessed in order to establish a detailed safety profile of the intervention.

Where is the study run from?
The N-PEP-12 is a single centre trial run from Cluj-Napoca, Romania.

When has the study started and how long is it expected to run for?
April 2016 to September 2019

Who is funding the study?
The Society for the Study of Neuroprotection and Neuroplasticity (SSNN) (Romania)

Who is the main contact?
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Study information

Scientific Title

Combined Neuropsychological, Neurophysiological and Psychophysiological Assessment of the Effects of N-Pep-12 on Neurorecovery in Patients after Ischemic Stroke

Acronym
N-Pep-12

Study objectives
The study assesses the therapeutic effect and the safety of a single daily dose of 90 mg of N-Pep-12 in supporting neurorecovery in comparison to a control group of patients after stroke

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 10/12/2015, Ethics Committee of the Iuliu Hatieganu University of Medicine and Pharmacy (8 Babeş Street, 400012 Cluj-Napoca, Romania; +40-264-597-256; contact@umfcluj.ro), ref: 507/10.12.2015. Amended twice refs: 82/24.03.2016;104/12.02.2018

Primary study design
Interventional

Study design
Exploratory, prospective, randomized, single-blinded, controlled study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Supratentorial, radiologically confirmed ischemic stroke with the onset 30-120 days prior to screening

Interventions
The synopsis of the study is organised in 3 visits:
Visit 1 – Screening / Baseline
Visit 2 – Efficacy / Safety - Day 30
Visit 3 – Efficacy / Safety - Day 90

No follow-up was performed after the 90-day evaluation. The study arms were administered the following treatment courses:
1. Treatment Group:
N-Pep-12 (90 mg) capsules 1/ day oral for 90 days
2. Reference Group

Randomisation, Blinding and Unblinding
This is a single-blinded study. Communication is forbidden between assessments and the person who gives the treatment.
Patients meeting the inclusion and exclusion criteria will be randomly assigned to receive either active treatment or control treatment based on the time of their enrollment in the study.

Randomisation was performed 2:1 (2 -intervention, 1 -placebo). The first two patients enrolled will receive active treatment, the third patient will receive placebo. This allocation scheme shall be continued until 120 patients have been enrolled.

Intervention Type
Drug

Phase
Phase IV

Drug/device/biological/vaccine name(s)
N-PEP-12

Primary outcome(s)
1. Cognitive function assessed using Montreal Cognitive Assessment (MoCA) (Nasreddine, 2005) at days 0, 30, 90
2. Emotional status assessed using Hospital Anxiety and Depression Scale (Zigmond, 1983) at days 0, 30, 90
3. Cognitive function assessed using Digit Span (Wechsler adult intelligence scale – third edition (Wechsler, 1997) at days 0, 30, 90
4. Cognitive function assessed using Color Trails Test (Posch, 2005) at days 0, 30, 90
5. Cognitive function assessed using PSI (Processing Speed Index, Wechsler adult intelligence scale – third edition) at days 0, 30, 90

Key secondary outcome(s)
Current secondary outcome measures as of 02/04/2020:
1. Eye movements assessed using a Tobii Pro TX300 eye tracking device and analyzed using Tobii Studio software at days 0, 30, 90
2. Brain electrical activity assessed using electoencephalography (EEG) and analyzed quantitatively using BrainAnalyzer software at days 0, 30, 90

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Previous secondary outcome measures:
1. Eye movements assessed using a Tobii Pro TX300 eye tracking device and analyzed using Tobii Studio software at 30, 101 and 180 days
2. Brain electrical activity assessed using electoencephalography (EEG) and analyzed quantitatively using BrainAnalyzer software at 30, 101 and 180 days

Completion date
26/10/2019

Eligibility

Key inclusion criteria
1. Stroke onset – 30-120 days prior to screening
2. Stroke is ischemic in origin, supratentorial, and radiologically confirmed (CT or MRI)
3. No significant pre-stroke disability (pre-stroke Modified Rankin Score of 0 or 1)
4. Goodglass and Kaplan Communication Scale Score of > 2 at screening
5. No other stroke in the 3 months preceding index stroke
6. Age between 18 and 80 years, inclusive

Participant type(s)

Patient

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
80 Years

Sex
All

Total final enrolment
121

Key exclusion criteria
1. Pre-existing and active major neurological disease
2. Pre-existing and active (e.g., on chronic medication) major psychiatric disease, such as major depression, schizophrenia, bipolar disease, or dementia (the short Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) score >3)
3. Advanced liver, kidney, cardiac, or pulmonary disease
4. A terminal medical diagnosis consistent with survival < 1 year
5. Major drug dependency, including alcohol (in the investigator's judgment).
6. Injury of writing hand influencing cognitive or other outcome measures, in the investigator's judgment.
7. Females who are pregnant or lactating.
8. Hemianopsia
9. Neglect
10. Myopia >3
11. Glaucoma

Date of first enrolment
05/04/2016

Date of final enrolment
26/07/2019

Locations

Countries of recruitment
Romania

Study participating centre

RoNeuro Institute for Neurological Research and Diagnostic
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Sponsor information

Organisation
EN: The foundation for the study of neuroscience and neuroregeneration (RO: Fundatia pentru Studiul Nanoneurostiintelor si Neuroregenerarii)

Funder(s)

Funder type
Research organisation

Funder Name
EN: The foundation for the study of neuroscience and neuroregeneration (RO: Fundatia pentru Studiul Nanoneurostiintelor si Neuroregenerarii)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	02/10/2020	02/12/2020	Yes	No
Results article		01/06/2021	28/06/2021	Yes	No
Other publications	Correlating Eye-Tracking Fixation Metrics and Neuropsychological Assessment after Ischemic Stroke	25/07/2023	05/03/2024	Yes	No
Other publications	Secondary analysis	25/07/2024	03/03/2026	Yes	No
Protocol file	version 2.0	17/01/2018	28/06/2024	No	No