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Can Cerebrolysin improve aphasia after ischemic stroke?

Submission date 10/04/2020	**Recruitment status** No longer recruiting	[X] Prospectively registered [X] Protocol [X] Statistical analysis plan [X] Results [_] Individual participant data
Registration date 29/04/2020	**Overall study status** Completed	
Last Edited 09/06/2026	**Condition category** Circulatory System	

Plain English summary of protocol

Background and study aims
Aphasia, a disorder that affects the ability to speak, understand, read or write, is a common symptom of acute ischemic stroke. In addition to speech therapy, this study investigates the effect of Cerebrolysin treatment on the recovery of post-stroke aphasia. Cerebrolysin is used in the treatment of ischemic strokes, brain trauma, organic, metabolic and neurodegenerative brain dysfunction. Previous research has suggested that Cerebrolysin acts by stimulating the brain's strengthening capacity, by promoting the survival of nervous system cells, neuronal communication and neurogenesis (the process by which neurons are born).

Who can participate?
Adults with speech disturbances post radiologically and clinically confirmed acute ischemic stroke with onset 3-5 days prior to screening

What does the study involve?
Participants are invited to join this study at 3-5 days after 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 40 days of IV infusion of Cerebrolysin along with 1 hour/day speech therapy for 30 days, while the second group is administered placebo along with speech therapy.

What are the possible benefits and risks of participating?
By participating in this study, patients receive a free comprehensive evaluation and treatment program for post-ischemic stroke recovery. They will benefit from speech therapy sessions and may also benefit from Cerebrolysin treatment. 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?
ESCAS is a trial run from Cluj-Napoca (Romania)

When has the study started and how long is it expected to run for?
May 2020 to March 2023

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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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
FSNN20200215

Study information

Scientific Title
Efficacy and safety of Cerebrolysin in the treatment of aphasia after acute ischemic stroke

Acronym
ESCAS

Study objectives
Combining speech therapy with Cerebrolysin in rehabilitation of patients with acute ischemic stroke will improve aphasia better than speech therapy alone.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 27.03.2020, Ethics Committee of the Iuliu Hatieganu University of Medicine and Pharmacy (8 Babeş Street, 400012 Cluj-Napoca, Romania; +40 (0)264 597 256; contact@umfcluj.ro), ref: 122/24.03.2020.

Primary study design
Interventional

Study design
Exploratory prospective randomized-controlled double-blinded trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Patients with Broca or mixed non-fluent aphasia post ischemic stroke with onset 3-5 days prior to inclusion

Interventions
The synopsis of the study is organised in 4 visits:
1. Screening and Baseline - Study Day 0 (3-5 days post stroke)
2. Visit 1 - Study Day 30
3. Visit 2 - Study Day 60
4. Visit 3 - Study Day 90

No follow-up is performed after the 90-day evaluation.

The study arms were administered the following treatment courses:

Previous interventions:
1. Control group:
1.1. 250 ml 0.9% saline solution administered by IV infusion as procedural placebo and speech therapy for 1h per day during the study period (40 treatment days)
2. Treatment group:
2.1. 30ml Cerebrolysin/day, diluted with 0.9% saline solution to a total solution of 250 ml, administered by IV infusion and speech therapy (1 h/day), 30 days during the study period

2.2. 10ml Cerebrolysin/day, diluted with 0.9% saline solution to a total solution of 250 ml, administered by IV infusion and speech therapy (1 h/day), 5 days/week, for 2 weeks (10 days) during the study period

Updated 04/06/2020:
1. Control group:
1.1. 250 ml 0.9% saline solution administered by IV infusion as procedural placebo and speech therapy for 1h per day during the study period (30 treatment days) – days 1-14, 29-42, 57-70
2. Treatment group:
2.1. 30ml Cerebrolysin/day, diluted with 0.9% saline solution to a total solution of 250 ml, administered by IV infusion and speech therapy (1 h/day), 30 treatment days – 1-14, 29-42, 57-70

Randomisation, Blinding, and Unblinding:
This study will be performed under double-blind conditions to keep investigators, other study personnel and patients blinded to treatment allocation. Cerebrolysin is an amber-colored solution; therefore, colored infusion lines will be used for drug administration.

A set of envelopes for each patient enrolled should be distributed to the study nurse preparing the ready-to-use-infusion solution. These nurses are only responsible for the preparation and administration of infusion solutions, and they should not be involved in any further study-related procedures. This person should not be allowed to disclose any information about treatment allocation. A treatment envelope should not be opened until the patient's first ready-to-use-infusion has been prepared.

Patients meeting inclusion and exclusion criteria will obtain a random number corresponding to the random list generated in advance by a biometrician selected by the Coordinator. Based on the random list sealed, opaque randomization/emergency envelops will be provided as follows:
1. To the study center to break blinding if reasonable suspicion of harm to the patient exists
2. To the person assigned to prepare the ready-to-use-infusion
3. To the study coordinator

On opening, the randomization/emergency envelopes are dated (date, hour) and signed by the person who has opened the envelope. The Investigator should promptly document and explain to the Coordinator any premature unblinding of the Investigational Product(s). The whole study will be unblinded after closure of the database and determination of the analysis populations.

Intervention Type
Drug

Phase
Phase IV

Drug/device/biological/vaccine name(s)
Cerebrolysin

Primary outcome(s)
Language function assessed by Western Aphasia Battery (Kertesz, 1979) at days 0, 30, 60, 90

Key secondary outcome(s)
Current secondary outcome measures as of 03/04/2023:

1. Stroke severity assessed by NIH Stroke Scale (http://www.nihstrokescale.org/) at days 0, 30, 60, 90
2. Functional outcome assessed by Modified Rankin Score (van Swieten J et al., 1988) at days 30, 60, 90
3. Activities of Daily Living assessed by Barthel Index (Mahoney et al., 1965) at days 30, 60, 90

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Previous secondary outcome measures:

1. Stroke severity assessed by NIH Stroke Scale (http://www.nihstrokescale.org/) at days 0, 30, 60, 90
2. Functional outcome assessed by Modified Rankin Score (van Swieten J et al., 1988) at days 0, 30, 60, 90
3. Activities of Daily Living assessed by Barthel Index (Mahoney et al., 1965) at days 0, 30, 60, 90

Completion date
31/03/2023

Eligibility

Key inclusion criteria
Current inclusion criteria as of 04/06/2020:
1. Radiologically (CT or MRI) and clinically confirmed diagnosis of acute ischemic stroke in the left MCA territory
2. Broca or mixed non-fluent aphasia
3. Inclusion in the study between 3 and 5 days post-stroke
4. Right-handedness
5. Romanian as language of daily use
6. Signed informed consent

Previous inclusion criteria:
1. Radiologically (CT or MRI) and clinically confirmed diagnosis of acute ischemic stroke in the left MCA territory
2. Broca or mixed non-fluent aphasia
3. Inclusion in the study between 5 and 30 days post-stroke
4. Right-handedness
5. Romanian as language of daily use
6. Signed informed consent

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
132

Key exclusion criteria
1. Prior symptomatic ischemic or hemorrhagic stroke
2. Severe comprehension deficit that may compromise informed consent or understanding of instructions such as fluent aphasias (ex. Wernicke aphasia), or global aphasias
3. Contraindications to MRI
4. Preexisting neurodegenerative or psychiatric disease
5. Epilepsy or EEG-documented epileptic discharges
6. Severe chronic renal or liver failure; (AST, ALT > 4 times normal values, creatinine > 4)
7. Life-threatening diseases
8. Auditory or visual deficits that cannot be corrected and might impair testing

Date of first enrolment
01/06/2020

Date of final enrolment
28/10/2022

Locations

Countries of recruitment
Romania

Study participating centre
County Emergency Hospital Cluj-Napoca
3-5 Clinicilor Street
Cluj-Napoca
Romania
400000

Study participating centre
“RoNeuro” Institute for Neurological Research and Diagnostic
37 Mircea Eliade Street
Cluj-Napoca
Romania
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Study participating centre
County Emergency Hospital "Pius Brânzeu" Timişoara
156 Liviu Rebreanu Boulevard

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300723

Sponsor information

Organisation
The foundation for the study of neuroscience and neuroregeneration (SSNN)

Funder(s)

Funder type
Research organisation

Funder Name
The foundation for the study of neuroscience and neuroregeneration

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		17/02/2025	09/06/2026	Yes	No
Preprint results		27/02/2024	19/08/2024	No	No
Protocol file	version 2.0	28/05/2020	15/09/2023	No	No
Statistical Analysis Plan	version 1.0	01/08/2023	15/09/2023	No	No
Statistical Analysis Plan	version 1.1	01/08/2023	19/09/2023	No	No