

# Can Cerebrolysin improve aphasia after ischemic stroke?

<b>Submission date</b> 10/04/2020	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 29/04/2020	<b>Overall study status</b> Completed	<input checked="" type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 19/08/2024	<b>Condition category</b> Circulatory System	<input type="checkbox"/> Individual participant data

## 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?

Dr Olivia Verisezan Rosu

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## Contact information

### Type(s)

Scientific

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## Additional identifiers

### EudraCT/CTIS number

Nil known

### IRAS number

**ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

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.

**Study design**

Exploratory prospective randomized-controlled double-blinded trial

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

Hospital

**Study type(s)**

Treatment

**Participant information sheet**

No participant information sheet available

**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 envelopes 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 measure**

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

## **Secondary outcome measures**

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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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

## **Overall study start date**

15/02/2020

## **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

**Age group**

Adult

**Sex**

Both

**Target number of participants**

120

**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 aphasia (ex. Wernicke aphasia), or global aphasia
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  
400364

**Study participating centre**  
**County Emergency Hospital "Pius Brânzeu" Timișoara**  
156 Liviu Rebreanu Boulevard  
Timișoara  
Romania  
300723

## **Sponsor information**

### **Organisation**

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

### **Sponsor details**

(RO: Fundatia pentru Studiul Nanoneurostiintelor si Neuroregenerarii)  
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### **Sponsor type**

Research organisation

### **Website**

<https://www.ssnn.ro/>

## **Funder(s)**

**Funder type**  
Research organisation

**Funder Name**  
The foundation for the study of neuroscience and neuroregeneration

**Results and Publications**

**Publication and dissemination plan**  
Planned publication in a high-impact peer-reviewed journal

**Intention to publish date**  
01/03/2023

**Individual participant data (IPD) sharing plan**  
The data sharing plans for the current study are unknown and will be made available at a later date.

**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?
<a href="#">Protocol file</a>	version 2.0	28/05/2020	15/09/2023	No	No
<a href="#">Statistical Analysis Plan</a>	version 1.0	01/08/2023	15/09/2023	No	No
<a href="#">Statistical Analysis Plan</a>	version 1.1	01/08/2023	19/09/2023	No	No
<a href="#">Preprint results</a>		27/02/2024	19/08/2024	No	No