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Webinar EVER Pharma

New Hope for Stroke Patients – Results from a High-Quality Comparative Effectiveness Study

December 4, 2025

Cerebrolysin®

Reconnecting Neurons.
Empowering for Life.

Webinar EVER Pharma (December 4, 2025)

New Hope for Stroke Patients - Results from a High-Quality Comparative Effectiveness Study

EXPERTS

Dr. Milan Vosko
Austria

Dr. Daniel Šaňák
Czech Republic

INTRODUCTION

This report summarizes the second EVER Pharma webinar of 2025, which focused on presenting results from the ***C****erebrolysin* ***REG****istry* ***S****tudy* in Stroke (CREGS) study – a high-quality comparative effectiveness research (HQCER) showing the results of Cerebrolysin in moderate acute ischemic stroke. The study findings, along with essential background information, were presented by two excellent strokologists, Dr. Milan Vosko and Dr. Daniel Šaňák. The webinar brought together over 600 medical professionals from more than 23 countries.

Background

Dr. Vosko started the webinar by stressing the growing global burden of acute ischemic stroke. Registry data, including the Austrian Stroke Registry, indicate a rising stroke incidence. Although severity has declined in some regions, the number of stroke cases is expected to increase by more than 10% by 2030. To be able to manage these rising numbers, hospitals and stroke units must therefore expand capacities and strenghten not only the acute therapy but also the rehabilitation infrastructure.

The expert emphasized that, when treating acute stroke patients, pharmacological interventions are usually considered first. However, treatment works hand in hand with training and early rehabilitation, such as occupational therapy, physiotherapy, and speech therapy, including the assessment of swallowing. In clinical practice, technological interventions are also included, such as technical devices, balls, games, and special task-oriented exercises for patients. In addition, enhancing neuromodulation is an important therapeutic goal.

Dr. Vosko illustrated this concept with two pictures. If a patient has a fracture and a broken leg, it is relatively simple to immobilize the extremity. The bone will heal, and eventually movement can be restored. In the brain, however, the opposite is true. Immobilization and inactivity are not effective because the brain is "lazy." Therefore, the brain and the remaining neurons and pathways must be stimulated to take over functions and re-establish lost neurological abilities.

Consequently, complex therapies from multiple directions – pharmacological, technological, and rehabilitative – are required to enhance and improve outcomes. The combination of these approaches is crucial, as no single therapy alone can independently improve outcomes in acute stroke patients. *(Figure 1)*

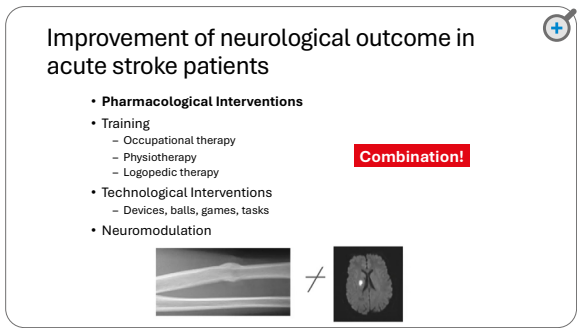


Figure 1

Dr. Vosko also noted that recanalization treatments (thrombolysis and thrombectomy) remain limited in many countries due to late hospital arrival or logistical barriers. This creates a strong clinical need for supportive cerebroprotective and neurorecovery-oriented therapies.

CREGS Study Design

Dr. Šaňák first presented the study design of the CREGS study. It was a prospective, multinational, high-quality comparative effectiveness research trial. It followed the GRACE principles of good research practices (HQCER) for comparative effectiveness studies.

The study used a restricted cohort design combined with multilevel stratification. This means that patients treated with Cerebrolysin were compared with untreated patients in a non-randomized setting. To ensure objectivity, statistical methods were predefined before the enrollment of the first patient. The dosage and frequency of Cerebrolysin administration followed local hospital practices.

Overall, this study design is highly sophisticated and representative of a multinational, high-quality comparative effectiveness research approach. *(Figure 2)*

Dr. Šaňák emphasized that a highly specific, relevant and patient-centered research question was used in the CREGS study. *(Figure 3)*

Accordingly, two patient groups were analyzed: patients treated with Cerebrolysin in addition to standard therapy and patients treated with standard therapy alone, both according to local routine clinical practice.

Dr. Šaňák mentioned, when considering different approaches to generate clinical evidence, the respective roles of randomized clinical trials (RCTs) and cohort studies should be acknowledged. RCTs are widely regarded as the highest level of evidence but often involve narrowly defined patient populations, which may limit their applicability to real-world clinical practice. In contrast, high-quality comparative effectiveness research includes broader, more representative populations and better reflects routine care. Although non-randomized, such studies can provide robust and clinically relevant evidence to enhance the evaluation of new treatment options. *(Figure 4)*

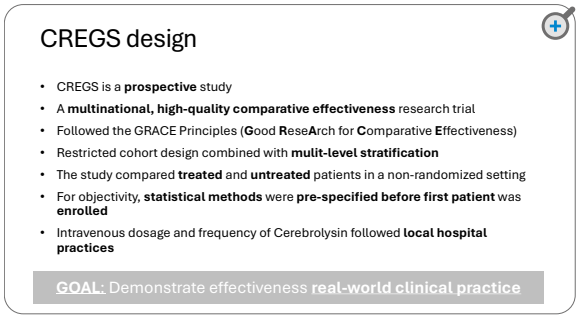


Figure 2

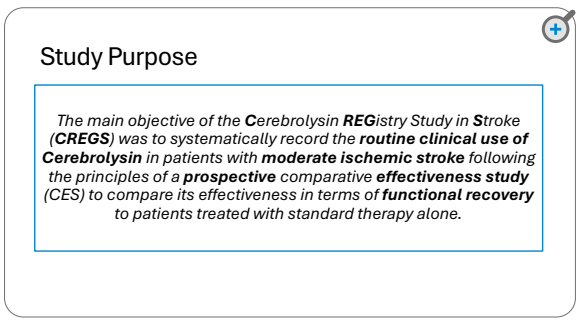


Figure 3

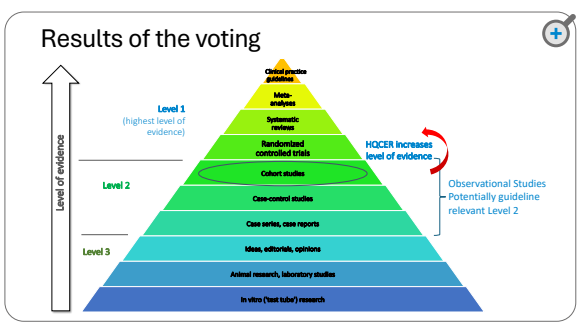


Figure 4

Study Population

The study enrolled 1,865 patients from 16 countries across Europe, Asia, Africa, and Latin America. Dr. Sanak highlighted that a high percentage (90.9%) of patients completed the follow-up for the primary endpoint (mRS at 90 days), an important quality indicator for clinical trials.

Key Inclusion Criteria

- Confirmed acute ischemic stroke (CT or MRI)
- NIHSS 8–15 (moderate stroke)
- No previous stroke (Restrictions: Patients with prior stroke or baseline disability (mRS >1) were excluded)
- Ability to complete follow-up to day 90

Dr. Šaňák emphasized that both treatment groups were well-balanced after stratification and highlighted that the baseline NIHSS was identical **(median 10)** in both groups:

- Age
- Gender
- Stroke severity
- Vascular risk factors
- Medication and thrombolysis rates
- Timing of hospital presentation
- Stroke unit admission

What does real world data mean?

Dr. Vosko repeated that the goal of the study was to reflect real-world clinical practice. Real-world data are increasingly influencing clinical routine and accurately reflect daily clinical practice. Treatments were administered according to local procedures and standard clinical practice, including adherence to the Summary of Product Characteristics and the use of appropriate cerebral imaging.

Patients received either the intervention in addition to local standard therapy or local standard therapy alone. A major strength of this non-interventional study was its prospective design and the use of minimal, clinically relevant inclusion criteria, in contrast to the more selective nature of randomized controlled trials. *(Figure 5)*

These real-world data provide valuable information and serve as an important complement to randomized controlled trials, enabling evaluation of treatment effectiveness across diverse patient populations and varying clinical practices within and between countries.

Figure 5

Study Results

Dr. Šaňák highlighted that the treatment duration and dosing was not pre-defined in the protocol, which leads to reflecting real-world clinical practice.

The resulting median value:

30ml Cerebrolysin daily for 10 days

The outcome measures can be found in *figure 6*.

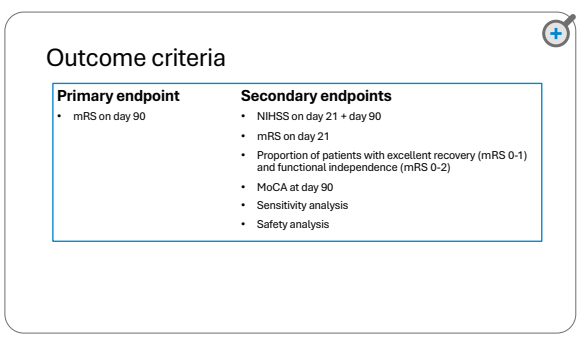


Figure 6

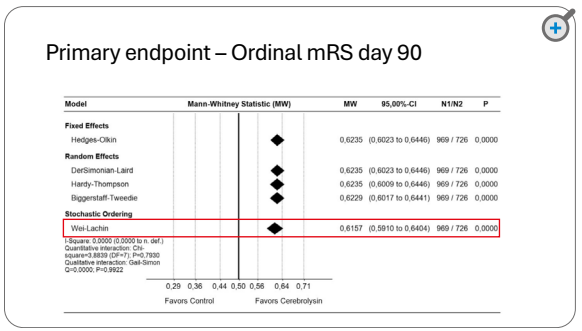


Figure 7

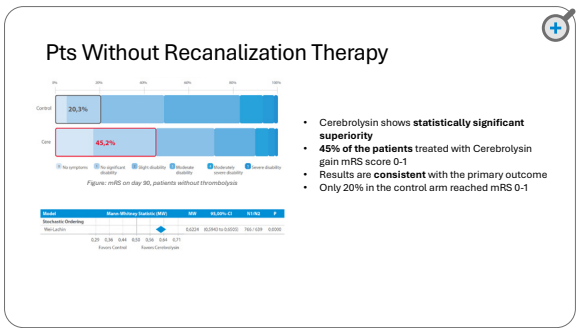


Figure 8

Functional Outcomes

Dr. Vosko started his presentation by emphasizing the superiority of Cerebrolysin treated patients in the primary endpoint results - mRS day 90. For the first time these results were demonstrated in a large scale clinical trial, constituting a breakthrough of Cerebrolysin's clinical evidence. *(Figure 7)*

In the group of patients who did not receive recanalization therapy, the shift analysis clearly demonstrates a superior functional outcome in the Cerebrolysin group. A total of 45.2% of patients treated with Cerebrolysin achieved an excellent outcome (mRS 0–1) on day 90, compared to only 20% in the standard-therapy group. *(Figure 8)* These findings are consistent with the primary endpoint results.

When examining the mRS at Days 21 and 90 – together with NIHSS scores at the same time points – the study showed both early and sustained functional recovery, again with high statistical significance. Cerebrolysin demonstrated superiority on all functional outcome measures, including mRS and NIHSS, present already at day 21 and persisting through day 90. *(Figure 8)*

Cognitive Outcomes

Dr. Vosko emphasized that the cognitive performance of the patients was an important part of the study analysis. Before presenting the results, the participants of the Webinar were asked to estimate how many stroke patients have developed cognitive impairment one year after stroke. Most participants assumed that around 50% show cognitive deficits. Global epidemiological data suggest that even up to 60% of stroke patients would benefit from effective treatments indicated to treat cognitive deficits.

MoCA results with or without pre-stroke cognitive impairment

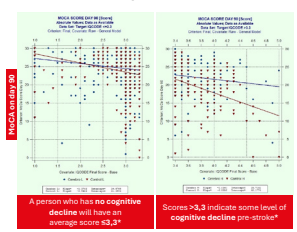


Figure 9

The cognitive function was assessed by the MoCA scale, which showed a statistically significant advantage for patients treated with Cerebrolysin. *(Figure 9)*

The study assessed cognition both in patients with and without pre-stroke cognitive impairment. Pre-stroke cognitive status was evaluated using the IQCODE (Informant Questionnaire on Cognitive Decline in the Elderly) a caregiver-completed, validated questionnaire widely used when direct pre-stroke cognitive testing is impossible.

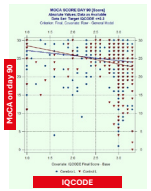
An IQCODE value:

- **Below 3.3** indicates no pre-stroke cognitive decline
- **Above 3.3** suggests existing cognitive decline before stroke

In contrast, in patients. without pre-stroke cognitive impairment, Cerebrolysin treated individuals showed a small decline in MoCA scores. *(Figure 10)*

In patients with pre-stroke impairment, Cerebrolysin preserved cognitive function more effectively than standard therapy. *(Figure 11)*

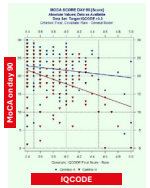
MoCA Scatter Plot – IQCODE ≤ 3.3
No cognitive decline pre-stroke



- Patients receiving **Cerebrolysin show a slight negative** slope (slope = -0.8188), indicating a modest decline in MoCA scores as IQCODE increases
- Patients in the control group experience a **more pronounced** decline (slope = -1.2778)
- Among lower-risk patients, MoCA scores decline more sharply in the control group than in the Cerebrolysin group
- **Cerebrolysin slows cognitive decline**

Figure 10

MoCA Scatter Plot – IQCODE >3.3
Cognitive decline pre-stroke



- In patients treated with Cerebrolysin with an IQCODE > 3,3, MoCA scores **remain very stable**
- Patients in the **control group show a marked decline** in MoCA scores with increasing severity
- The difference between treatment and control is even **more pronounced in the high-risk group**
- Patients receiving Cerebrolysin demonstrate better MoCA outcomes
- **Cerebrolysin preserves cognitive function**

Figure 11

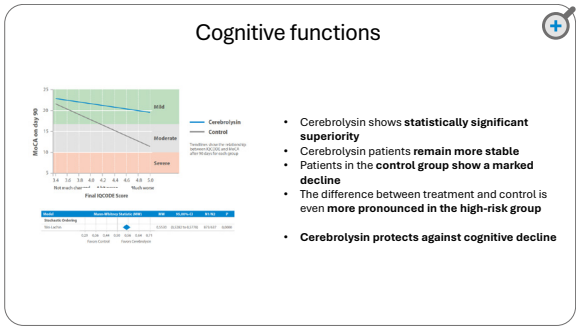


Figure 12

Overall, the data showed that Cerebrolysin *(Figure 12):*

- Protected against post-stroke cognitive decline
- Was particularly beneficial in high-risk patients with pre-stroke impairment
- Maintained cognitive stability significantly better than standard therapy alone

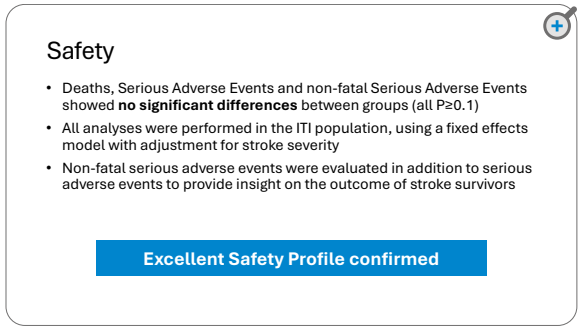


Figure 13

Safety outcomes were also evaluated. There were no significant differences between the Cerebrolysin group and the control group. *(Figure 13)*

The excellent safety profile of Cerebrolysin was fully confirmed in this trial.

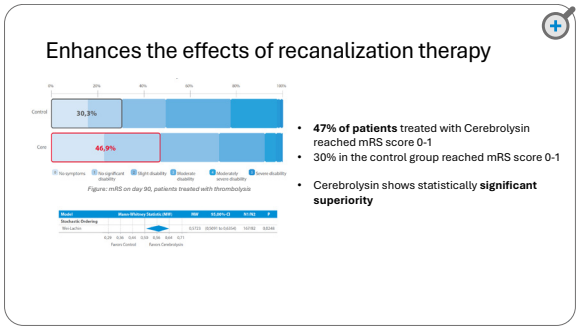


Figure 14

Patients who underwent IV thrombolysis were also included in the CREGS study. The analysis showed that even in this subgroup, the addition of Cerebrolysin resulted in better functional outcomes on day 90 compared with standard therapy alone *(Figure 14)*.

- **47%** of patients receiving **IV thrombolysis + Cerebrolysin** achieved mRS 0–1
- Only **30%** reached the same outcome in the **standard-therapy group**

Thus, Cerebrolysin demonstrated statistically significant superiority also in patients treated with thrombolysis as well.

Summary

Both experts emphasized the improtance of prospective real-world studies for clinical decision making. The large-scale CREGS study showed significant improvement in the primary endpoint, corresponding with a clinically meaningful improvement in functional outcome.

Key Messages:

Early and sustained functional recovery

Effective as stand-alone therapy

Preserves cognitive functions

Enhances the effects of recanalization therapy

For further insights, please watch the video.

http://webinar.everpharma.com/new-hope-for-stroke-patients-results-from-a-high-quality-comparative-effectiveness-study

ABBREVIATED PRESCRIBING INFORMATION. Name of the medicinal product: Cerebrolysin - Solution for injection. Qualitative and quantitative composition: One ml contains 215.2 mg of Cerebrolysin concentrate in aqueous solution. List of excipients: Sodium hydroxide and water for injection. Therapeutic indications: For treatment of cerebrovascular disorders. Especially in the following indications: Senile dementia of Alzheimer's type. Vascular dementia. Stroke. Craniocerebral trauma (commotio and contusio). Contraindications: Hypersensitivity to one of the components of the drug, epilepsy, severe renal impairment. Marketing Authorisation Holder: EVER Neuro Pharma GmbH, A-4866 Unterach. Only available on prescription and in pharmacies. More information about pharmaceutical form, posology and method of administration, special warnings and precautions for use, interaction with other medicinal products and other forms of interaction, fertility, pregnancy and lactation, effects on ability to drive and use machines, undesirable effects, overdose, pharmacodynamics properties, pharmacokinetic properties, preclinical safety data, incompatibilities, shelf life, special precautions for storage, nature and contents of the container and special precautions for disposal is available in the summary of product characteristics.

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